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Novatio A N N A L S *Clayton*

OF
M E D I C I N E,
FOR THE YEAR 1802.

EXHIBITING A CONCISE VIEW OF
THE LATEST AND MOST IMPORTANT DISCOVERIES
IN MEDICINE AND MEDICAL PHILOSOPHY.

BY
ANDREW DUNCAN, SEN. M. D.

AND
ANDREW DUNCAN, JUN. M. D.

FELLOWS OF THE ROYAL COLLEGE OF PHYSICIANS,
EDINBURGH.

Actiones autem et opera quæ ad literas amplificandas pertinent, circa tria versantur objecta: Circa literarum sedes; circa libros; et circa personas eruditorum. Quemadmodum enim aqua, sive ex cœlesti rore descendens, sive ex fontibus scaturiens, facile dispergitur et disperditur, nisi colligatur in aliqua receptacula, ubi per unionem et congregationem se sustentare et fovere possit; similiter, liquor iste Scientiæ pretiosissimus mox periret omnis atque evanesceret, nisi conservaretur in libris.

BAC. de Aug. Scient.

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P R E F A C E.

THIS Volume of Annals of Medicine for 1802, which ought to have been published on the 1st of January 1803, has been so long retarded by the accidental concurrence of several circumstances, which were equally unforeseen and unavoidable, that we can only present it to the public in the beginning of May. We flatter ourselves, however, with the hope, that we shall be able to adhere more regularly to the day of publication hereafter; and we trust that our readers will find ample compensation for

the delay which has taken place in the publication of the present volume, from the importance of several articles which it contains. In the account of books, our readers will, we trust, find a distinct and fair abridgment of several interesting and expensive works ; and among the original observations which the present volume contains, those who are anxious to acquire a knowledge of important medical facts, will find not a few particulars well deserving attention.

While we take this opportunity of returning, in a public manner, our best thanks to Dr SHERWEN, Dr BROWN, and the other gentlemen to whom we are indebted for those valuable papers which the present volume contains, we must continue our solicitation for future assistance, from those candid and observant practitioners, to whom facts may have occurred in practice affording instruction to themselves. Even the oldest and
ablest

ablest in the profession have much to learn and much to correct; and those occurrences in practice which serve either to rectify their own errors, or add to their own knowledge, may afford the same useful information to others.

Communications intended for the *Annals of Medicine* may, as formerly, be either transmitted to Dr DUNCAN *senior*, or *junior*, at Edinburgh; or to Dr GEORGE PEARSON, physician, Leicester Square, London, by whom they will be forwarded to the Editors.

EDINBURGH, }
April 30. 1803. }



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ANNALS
OF
MEDICINE,

FOR THE YEAR 1802.

SECTION I.
ANALYSIS OF BOOKS.

I.

Traité des Moyens de désinfecter l'Air, de prévenir la Contagion, et d'en arrêter les Progres. Par L. B. Guyton-Morveau, Membre de l'Institute National de France, et de plusieurs Sociétés savantes de France et étrangères. 8vo. Paris. 1801.

VERY few medical publications have appeared of late years, which have more deservedly attracted the attention of the public than the work now before us. Many of our readers, we doubt not, will never be satisfied with any analysis of this work, but

will reckon it necessary to peruse with attention every part of it. But to those who may not soon have an opportunity of reading the original, and even to those who have already read it with great care, a full and fair analysis will, we trust, be highly acceptable.

To this work, the ingenious author has prefixed a preliminary discourse, in which he gives a brief account of the circumstances which gave rise to his publication. This subject particularly engaged his attention, at a time when an epidemic fever at Genoa carried off near five hundred of its inhabitants every day. M. Guyton entertained hopes that his work might appear soon enough to call the attention of the Genoese to the use of efficacious preservatives against contagion, which seemed to be there totally neglected. But, on the other hand, it was his earnest desire, that his work should contain such proofs and illustrations of the measures recommended, as might ensure the confidence of the public. He took, therefore, a more expeditious mode of communicating to the Genoese an account of those practices which he had found successful in destroying contagion. The *Citoyen Français* of the 4th of August 1800, contained a melancholy
account

account of the fatal effects of the contagious fever at Genoa. He, therefore, immediately procured the insertion in the same Journal of a letter, in which he briefly stated the use he had made in 1773 of the fumigation with mineral acids in purifying air infected by putrid emanations, and of the success he had obtained from it in the cure of hospital fever. But besides this immediate step, he resolved to prosecute his intention of demonstrating, in the clearest manner, to the public at large, the advantages of the fumigations which he had recommended ; and the work now before us is the product of his labours on this subject.

This work is divided into four parts. In the first, he gives a short review of the circumstances which gave birth to the trials of fumigation with the muriatic acid ; of the results obtained ; of the conclusions deduced from them ; of the experiments made to prove that they might be executed without removing the sick ; and of the instructions circulated for carrying them into practice.

In the second part, he gives extracts from the reports of experiments made on this subject in foreign countries, and principally of

those undertaken by an order from the Admiralty of England.—In the third part, he offers observations on the different opinions delivered as to the results of trials, and on the principles on which a preference may be founded in favour of one or other of the processes which have been recommended.—In the fourth and last part, he points out those measures which, upon the whole, seem to promise the greatest advantage, and ought to produce the greatest confidence. Of the observations offered in each of these parts, we shall give a short view, in the order in which they are here considered.

The vaults of the principal church of Dijon having been completely filled with dead bodies in the winter 1773, it was thought necessary to issue orders for the removal of those bodies from these subterraneous repositories. But in consequence of this, the air was so contaminated, that it soon became necessary to shut up the church. Unsuccessful attempts had been made to purify the air, by the detonation of nitre, by fumigations with vinegar, by burning a variety of perfumes and odoriferous herbs, and by sprinkling the pavement with a large quantity of what has commonly

monly been called Thieves vinegar. But the effect of these operations was merely to conceal the putrid effluvia for a short time. The influence of these soon re-appeared with its former activity; and, in the neighbourhood, a contagious fever was soon observed. This led to M. Guyton's being consulted on the means of destroying the source of the distemper. He immediately thought of employing the muriatic acid, as he imagined that its vapours, highly diffusible, might combine with the ammonia, which he considered as the vehicle of the fetid miasmata; and might thus leave those miasmata to subside by their own gravity.

This fumigation with muriatic acid, was carried into execution, on the 6th of March 1773, and an account of it was published in the *Journal de Physique* of that year. Here, it is sufficient to observe, that he used on this occasion about six pounds of common salt, and two pounds of concentrated sulphuric acid. In about two hours after the fumigation was begun, the acid vapour had so far penetrated the whole church, that it could be distinctly perceived escaping through the key-holes, at the greatest distance from the

place where the materials furnishing it stood. Next day, not the slightest vestige of any offensive odour remained, and all who were present were convinced that the infection was completely exterminated. Four days after, service was performed in the church, as usual, without the smallest bad consequence. Thus did a single fumigation prove sufficient for the entire purification of the whole air of a very large church.

The utility of this process was soon after confirmed by another event. The jail-fever, in 1773, showed itself in the prison of Dijon. Thirty-one persons, in a short time, fell victims to it, and the contagion was making the most alarming progress. M. Guyton was requested to superintend the fumigation of the prison in the same manner as had been done in the church of St Stephen. This was accordingly performed with the greatest accuracy, and with the most happy effect. In this case, a singular circumstance was observed. Such was the disagreeable fetor in a particular cell, that it was suspected by every one that it still contained a putrid dead body. Straw had been repeatedly burnt in it, without any effect in diminishing this fetor. But
from

from fumigation with muriatic acid, the fetor was completely removed.

This practice of destroying contagious effluvia by means of acid vapour, was afterwards employed by the direction of M. Vicq d'Azyr, and others, against the epizotique, which proved so destructive to cattle in France. It is indeed true, that for purifying the stables, they directed also the use of perfumes, resinous substances, juniper berries, aromatic flowers, and the like. But in these they placed so little confidence, that M. Vicq d'Azyr himself observes, that these aromatics, in burning, substitute only a pleasant for a fetid odour, and thus deceive without destroying the putrid miasmata. As possessing a power of destruction, the saline vapours, he observes, ought always to be preferred.

These observations, however, did not lead to the general introduction of this practice, where it was highly necessary. The lazarettos were left to the usual aromatic fumigations, and the hospitals and prisons were scandalously neglected. From the multitude of persons infected with fever in these, even the Officers of Health, and the attendants, fell victims to the contagion. This led M. Guyton to propose

to the Convention, that instructions should be drawn up, and published, respecting the means of arresting the progress of contagion. And accordingly, by order of the Convention, instructions drawn up by the Board of Health, were circulated among all the naval, military and civil hospitals, in which they recommended that contagion should be destroyed by means of the muriatic acid in a state of gas, disengaged by the addition of sulphuric acid to common salt. And they observe, that a ward containing forty or fifty beds may be completely purified by nine ounces of sea salt, and four of sulphuric acid. But they affirm, that the sick must be previously removed to another room. From this circumstance, it was rendered in many cases altogether impracticable. M. Guyton, however, having suggested, that such a removal was not necessary, the Board of Health instituted fresh experiments, and afterwards reported, that the method of purifying hospitals, by means of muriatic acid gas, might be employed without any inconvenience, and with very great advantage, in full as well as in empty wards. But notwithstanding these recommendations, most of the Officers of Health remained long ignorant, both
of

of the process of fumigation and its salutary effects. In a few instances in which it was employed, particularly with the army in Belgium, and with that of the Western Pyrenees, it was productive of the most salutary effects.

In the second part of this work, M. Guyton gives an account of trials made in other countries, respecting the purification of air by fumigations with the mineral acids. Here he gives a particular detail of the experiments made by desire of the Lords of the Admiralty in Britain, for determining the effects of nitrous acid in destroying contagion, according to the method recommended by Dr Carmichael Smyth. But as we have given a full account of this in a former volume, it is here unnecessary to resume any further observations respecting it.

This part is concluded with some account of the method of fumigating which was adopted in Spain. This method is detailed in a journal published at Madrid, by D. Virio and D. Juan Melon, under the title of "Semanario de Agricultura y Artes dirigido a los Parocos." From this journal, it appears that the method of disengaging muriatic acid gas from

from common salt, by means of sulphuric acid, as recommended by M. Guyton in 1773, was used with success at Madrid in 1797, and experience demonstrated that it might be employed in wards where patients were present, without any inconvenience or danger to the sick. They recommend this method as highly advantageous in every case of pestilential fever, whether epidemic or epizootic. And it would appear that it had been so often practised, as to lead them to think of deriving some advantage from the salt remaining in the vessels. They recommend its being given to bestial as cooling and diuretic. On this recommendation, however, M. Guyton thinks it unnecessary to offer any remarks, as being only very remotely connected with the object of his present work.

In the third part of this work, M. Guyton proceeds to offer some reflections on the effects of acid fumigations, and on the opinions delivered on that subject. From what he has stated in the first parts of his work, the conclusion, he thinks, may with confidence be drawn, that mineral acids possess the power of destroying contagious miasmata, and the putrid smell which indicates their presence; that these acids may be converted into a state of vapour

so as to purify a mass of infected air ; and that with a few simple precautions, these vapours may be diffused in close apartments, and where people are present, without producing the slightest inconvenience. But it still remained to be determined, whether all these acids act in the same manner ? whether they exercise the same affinity ? whether their effects be equally prompt and complete ? whether their action be increased by oxygen ? whether all kinds of contagious miasmata equally yield to the power of these agents ? whether putrid effluvia of every kind have necessarily this character ? whether ammonia constitutes an essential part of these effluvia ? whether they are always accompanied with carbonic acid gas ? and finally, whether the vegetable acids can also produce their decomposition ?

The determination of these questions cannot, he thinks, fail to throw much light on the causes and effects of contagion ; and in determining the object which practitioners ought to propose to themselves in applying the means of destroying contagion. Following, therefore, the exact method of which modern chemistry is in possession, he instituted a variety of experiments, with the view of determining these points.

We

We are here, in the first place, presented with a particular detail of eleven different experiments, principally made with the view of detecting the principles communicated to the air by the effluvia escaping from substances in a state of putrefaction.

In the first experiment, he made a portion of air infected by putrid emanations pass through lime-water, which immediately became turbid. The precipitate produced strong effervescence with acetous acid. The smell of the gas, after this operation, was still very fetid, although the lime-water had not been entirely saturated by the gas made to pass through it; as appeared from its again becoming turbid, on the addition of water impregnated with carbonic acid.

This experiment was repeated at three different periods during the progress of putrid decomposition. The same phenomena always appeared. The lime-water became milky; the gas preserved its fetid odour, even after violent shaking with the lime-water. At the last trial, the lime-water was covered with a pellicle reflecting prismatic colours.

In the second experiment, another portion of the same putrid gas was thrown into a vessel

fel filled with a solution of the nitrate of silver, which instantly became black, and there was afterwards separated from it a brown coloured pellicle, part of which soon fell to the bottom.

In the third experiment, the solution of nitrate of mercury, through which the same gas was made to pass, became immediately of a deep black colour. The liquor was soon covered with a pellicle reflecting all the colours of the rainbow. At the end of some days, during which it was exposed to free air, a white precipitate only could be discovered.

With a solution of acetite of lead, it was found, in the fourth experiment, that the effect was still more sudden and more considerable. At the end of a few seconds, there was deposited at the bottom of the vessel a black powder which preserved its colour.

By making the gas pass through a solution of nitrate of copper, diluted with water, a yellow colour was produced. A light precipitate was observed of a flaky appearance, which at length deposited a brown powder, and there remained on the surface of the liquor a thin pellicle, which reflected the rain-bow colours, and had an appearance of metallic lustre. This phenomenon

nomenon occurred even in a solution which had a slight excess of acid.

In the sixth experiment, the putrid gas introduced into a jar filled with a solution of sulphuret of lime, rendered it instantly turbid, and there took place a deposition of carbonate of lime, but without any appearance either of black or brown precipitate, or any extrication of ammonia.

Slips of paper coloured with the fernambouc, with the flower of mallows, with turmeric, and with the solution of nitrate of copper, were in the seventh experiment suspended for twenty-four hours in close vessels filled with air, loaded with putrid emanation. There took place no change indicating the presence of the smallest quantity of ammonia. The colours merely appeared more faint; but they still preserved the property of manifesting, by an obvious alteration, the presence of alkali.

In the eight experiment, M. Guyton endeavoured to mix putrid air with diluted syrup of violets, with a weak solution of copper, and with the infusion of turnsol, rendered red by acetous acid; but he could not discover the slightest trace of volatile alkali.

He

He found the case, however, very different in the ninth experiment, when he presented these re-agents to the vapour disengaged by lime from the water which he had employed to displace the infected air, and which having been in immediate contact with the putrid meat, had acquired a slightly reddish tinct. At the end of two hours, paper stained with the fernambouc, the mallows, and even the turmeric, gave unequivocal marks of the action of ammoniacal gas.

In the tenth experiment, M. Guyton found, that a saturated solution of sulphat of zinc, which had been kept for twenty-four hours in an apparatus with two jars, with air loaded with putrid emanations, and frequently agitated, showed no trace of the white precipitate, which is produced in this solution, by sulphurated hydrogen and the hydro-sulphurets. The liquor appeared only more disposed to give crystals, in the form of downs, on the sides of the jars. The putrid smell had suffered only a very slight diminution.

In the eleventh experiment, M. Guyton inclosed with the infected air, those oxyds which act the most powerfully on the hydro-sulphurets, such as the oxyd of zinc, the black oxyd
of

of manganese, and the brown oxyd of lead, all reduced to very fine powder, and slightly moistened with distilled water. At the end of twenty-four hours, during which time this mixture had been frequently agitated, he could perceive no change in the colour of these oxyds; no mark of the disengagement of ammonia, nor any phenomenon which manifested the presence of sulphur. The fetid odour appeared only slightly diminished in the jar which contained the oxyd of manganese, and the water had acquired the property of precipitating a deep-coloured grey powder from solutions of nitrate of mercury and acetite of lead.

From the experiments which we have now related, M. Guyton draws some conclusions. In one point of view, they are, he observes, wholly new. Former writers made their experiments on substances in a state of putrefaction, as flesh, blood, urine, &c.; but it was the air contaminated by putrid effluvia, which M. Guyton examined. It is at present, in general, allowed, that eudiometers of the best construction afford no sufficient test of the salubrity of the air; and, with the celebrated Gren, M. Guyton is disposed to think, that a
proper

proper cacometer would be a more useful instrument : For it is not only necessary to ascertain the quantity of oxygen which air contains, and which from the want of a due proportion of this is unable to support life, but also to discover air that is noxious, because furcharged with carbonic acid gas or carbonated hydrogen, and likewise air that is unhealthful by fetid impregnations. Of the one, a striking example occurred in the terrible effects of the black-hole at Calcutta, where of 146 persons, who entered it in a state of perfect health, 122 perished in the course of eleven hours. Here a convincing proof was afforded, that no putrefactive process had produced contagious miasmata, as exposure to pure air was of itself sufficient to recover the survivors.

With regard to air rendered noxious by fetid emanations, there are great difficulties, as the nature of these emanations has not been fully ascertained. Putrid emanations, M. Guyton observes, do not vitiate the air to that extent which the disagreeable odour might lead us to suppose ; and, on the other hand, their constituent principles may exist in the atmosphere, without producing any

disagreeable sensation from their action on the olfactory nerves. Thus water impregnated with sulphurated hydrogen, when not distinguishable by its smell, still produces a black precipitation with nitrate of mercury.

M. Guyton gained a double advantage, by directing his attention particularly to air vitiated by putrid effluvia. In the first place, he was guided in his opinion respecting the results, by an unequivocal mark of the degree of deleterious action of the effluvia, as he holds that to destroy the smell, is to destroy the danger. Here, however, he observes, that a proper distinction is to be made between destroying a smell and merely masking it. Masked odour from impressions more powerful acting on the olfactory nerves, may still be pernicious; but the destruction of odour is the consequence of a combination, in which the odorous body is decomposed, and by this means is either rendered inert, or has its qualities essentially changed.

In the second place, by making experiments on air loaded with putrid effluvia, his attention was particularly directed to that pernicious fluid, which is the most common origin of contagion in hospitals and prisons.

These

These preliminaries being stated, conclusions, M. Guyton observes, may be drawn with greater accuracy. The accumulation of carbonic acid gas in hospitals, shews the propriety of the direction which has often been given, of placing in the corners of wards, buckets filled with water, into which a portion of quicklime has been thrown. This will certainly absorb carbonic acid gas. But M. Guyton's first experiment will serve to undeceive those who imagine that lime-water decomposes contagious effluviæ. For it proves, that corrupted air preserves its noxious smell even after being agitated with lime-water. From this fact it appears, that white-washing the walls of infected rooms with lime, which has been strongly recommended by some even in the plague itself, is by no means so powerful as was once imagined.

The phenomena related in the 2d, 3d, 4th, and 5th experiments, evidently demonstrate in air vitiated by putrid miasmata, a de-oxidating principle; for it is only by losing oxygen, that silver, mercury, lead, and copper could have been separated from their acid solvents, so as to re-appear in a concrete form, and with colours which announced a change.

Hence, in combating the action of such reductives, we are naturally led, M. Guyton observes, to call in the aid of the most powerful oxygenants; and we may rest assured of destroying the composition and its properties, if we succeed in effecting combustion even of some of its elements.

With the view of confirming this conclusion by proofs of another kind, M. Guyton undertook experiments, with the detail of which we are next presented.

Exp. 12. M. Guyton filled a recipient with air, contaminated by putrid effluvia to the highest degree. He burnt in it, at several different times, benzoin, till it was rendered opaque; and after cooling, its internal surface was in part covered with flowers. The odour of the benzoin, though strong, did not prevent him from still distinguishing a disagreeable putrid fœtor.

Exp. 13. He filled with infected air an apparatus, with two jars, employed in some former experiments. He then introduced tincture of benzoin, which he had rendered milky, by the addition of water, that it might give out its odour. He repeatedly agitated the air with the liquor. Next day the odour
emitted

emitted still gave a mixed sensation, though less disagreeable than in the former experiment.

Exp. 14. He treated putrid air, in the same manner with balsam of Peru, storax, and myrrh, dissolved in alcohol. The fetor was still more sensible, or at least still more unpleasant, notwithstanding its mixture with these substances.

Exp. 15. The celebrated antipestilential preparation, known by the name of the Vinegar of the Four Thieves, was strongly agitated with putrid air; and after remaining in the apparatus twenty-four hours, he could still distinguish the nauseous and disagreeable odour which characterizes those mixtures, in which putrid effluvia are modified, not destroyed.

Exp. 16. The pyroligneous acid, inclosed and agitated with putrid air, produced so great a change in the smell, that, at the end of two hours, the putridity was scarcely perceptible; the only impression given being that arising from the empyreuma of the acid.

Exp. 17. M. Guyton filled with putrid air a pretty large recipient. He burnt in it a portion of gunpowder at three different

times. The smell was little changed by the first; it was sensibly diminished by the second; and by means of the third it entirely disappeared. But he was convinced, that in this case the putrid air was rather displaced than destroyed.

Exp. 18. He filled the small jar of the apparatus with good vinegar, the other being full of putrid air. Having established a communication between the two, he mixed the vinegar with the aëriform fluid. The large jar being immediately opened, the odour was found already sensibly diminished. After three agitations in the space of an hour, although it could not be said that the smell of the vinegar was perfectly pure, yet the putrid odour was altogether imperceptible.

Exp. 19. He poured some vinegar into a matrafs with a syphon, inclosed under a glass bell, filled with putrid air. He then began distillation by means of a lamp; and in half an hour the air appeared entirely to have lost its putrid odour.

Exp. 20. He poured a small quantity of vinegar into a tubulated recipient, filled with putrid air. He then introduced a small piece of iron red hot. On opening the recipient
after

after being cooled, there was exhaled a nauseous disagreeable odour. The smell of the vinegar could not be distinguished.

Exp. 21. To ordinary vinegar, he substituted acetic acid or radical vinegar. Its effect was complete at the very first instant. There remained no trace of the putrid odour; and the agreeable pungency of the acid appeared to be very little weakened.

Exp. 22. Putrid air, after being repeatedly agitated with a solution of the acetite of manganese, still retained a small degree of fetor.

Exp. 23. M. Guyton next proceeded to examine the influence of the mineral acids, and he began with the acid of sulphur. He burnt about two decagrammes under a glass vessel, containing thirty-two decilitres of fetid air. The whole of the fetid smell immediately disappeared; though, indeed, the intensity of the sulphurous vapour rendered it very difficult to judge of any other smell.

Exp. 24. To determine the influence of sulphuric acid in another way, he employed the apparatus with two jars. He put into the one a portion of strong sulphurous acid; the other was filled with infected air. Twenty-

four hours after a communication was established, he was not a little surprised still to perceive some putrid odour, notwithstanding the pungency of the sulphuric vapour.

Exp. 25. He inclosed in the same apparatus, concentrated sulphuric acid of a white colour, with fetid air. A single agitation completely destroyed the whole odour; and the colour of the acid did not undergo the smallest change.

Exp. 26. In determining the effects of the nitric acid, he wished to conform as much as possible to the mode employed by Dr Smyth. He filled with putrid air a large recipient with a double neck, into which he introduced the mouth of a small tubulated retort, containing six grammes of concentrated sulphuric acid, and placed in a sand-bath. When the sand was heated in it, he threw in gradually, through the tube, an equal quantity of pure nitrate of potash. Vapours were then disengaged, which entered the cavity of the recipient; upon which the air it contained totally lost its fetor, and produced no alteration on the colour, either of solutions of acetite of lead, or nitrate of mercury.

After

After relating, in the 27th and 28th experiments, trials which were made with the view of ascertaining some circumstances mentioned by Dr Smyth and Mr Keir, M. Guyton proceeds, in the 29th experiment, to give an account of a trial with the vapour of muriatic acid. He filled with this acid in a concentrated state, the small jar of the apparatus already mentioned; the large one being full of highly putrid air. He then established a communication between the two, and at the end of a few minutes the putrid odour had entirely disappeared; and the air which before gave a deep black tinct to a solution of acetite of lead, now produced only a slight white precipitation.

Exp. 30. He repeated the preceding experiment in such a manner, that the putrid air could be acted upon only by the vapour of the acid. By this the air in a short time was also completely purified.

Experiment 31. was performed with the acid so far diluted, that its specific gravity was only 1.087. After a quarter of an hour, the fetid odour was still perceptible. But it was suddenly destroyed when he agitated the two communicating jars.

After

After relating an experiment with muriatic acid, detached from sea-salt by means of sulphuric acid, and another with oxygenated muriatic acid, obtained from the same articles, with the addition of black manganese, in both of which the putrid smell was very speedily destroyed; he terminates this series of experiments, by detailing, in the 34th, a process by which this powerful gas may at all times be readily obtained. Into a jar, the capacity of which was three centilitres, he put four grammes of the black oxyd of manganese grossly powdered. He then filled the jar to about two-thirds with nitro-muriatic acid. A few minutes after it had been agitated, the vapour of the oxygenated acid gas was disengaged with such intensity, that the colour of vegetables, presented to the orifice of the jar, were radically destroyed. The facility and promptitude with which acid gas may thus be obtained, when it is to be employed for destroying contagion, led M. Guyton to name it *Extemporaneous oxygenated muriatic acid gas*.

It is unnecessary, he observes, to relate how often he has experienced the efficacy of this agent, which he constantly uses when there happens

happens to be such abundance of putrid exhalations, as to render it unsafe to remain exposed to them. Thus it became the daily subject of experiment during the course of his labours.

After this detail of experiments, he next makes some observations on the principles which may serve to fix the choice of the means to be employed for correcting the insalubrity of air, and for stopping the progress of contagion.

Aromatics, though they have been long recommended, have, it would appear, little or influence. The power of common vinegar, the acetous acid, is not inconsiderable. But the radical vinegar or acetic acid, has in this respect a decided superiority; and M. Guyton thinks, that this depends on a difference of composition, and not merely upon a higher degree of concentration.

Radical vinegar, or the aromatic vinegars prepared by Mr Henry at Manchester, or by Mr Briggs of Edinburgh, (which, although the method of preparing them has never yet been published, both consist, we believe, of acetic acid united to camphor, to oil of cloves, and some other aromatics), have, of late,
been

been much employed in private practice, by several practitioners in Edinburgh, in fevers. Indeed, some of them, in almost every case of fever, direct a few drops of this, on a linen rag, to be exposed frequently at different parts of the patient's chamber, particularly about the bed. By this means the whole air of the room is not only freed from any disagreeable smell, but acquires a pleasant one ; and that both in a much more easy and permanent manner than by boiling common vinegar, as has often been recommended.

The pyroligneous acid appears to have the power of making some impression on putrid air. But he considers it as nothing else but the acetous acid, modified by the quantity of empyreumatic oil, which it contains, and its action as an acid is diminished in proportion to this alteration.

The practice of kindling fires, with the view of destroying contagion, is as old as the days of Hippocrates. These may be supposed to have effect, by means of the pyroligneous acid; and the presence of an acid is very manifest in the smoke of wood. The action of heat also may alter the state of the air. But in neither way can fires have much influence ; and
during

during the plague at Marfeilles, though from fires kept burning for three days together, the atmosphere was darkened with a thick smoke, yet from accurate observations, this had no influence in destroying the contagion. On the contrary, to some it appeared to give additional activity to the contagion, perhaps by increasing the natural heat of the season.

The explosion of gunpowder, from M. Guyton's trials, has the effect of displacing, but not of destroying, putrid odours.

Fumigation with sulphur, it appeared, acted with great effect. But this method can be employed only in purifying such articles, as admit of immediate exposure to the sulphureous vapour.

With regard to the three mineral acids, M. Guyton's experiments have confirmed the opinion, which daily observation affords, of their great activity; and indeed they are in general regarded as the most powerful instruments of destruction to every organic composition. It must not, however, be concluded, that these acids all act in a similar manner. It was found, that the sulphuric, diffused in three parts of water, instantly destroyed all
odour

odour in a mass of putrid air, with which it came in contact. But on account of its fixity, it is wholly unsuitable to the purpose; and the spontaneous evaporation of the sulphurous acid, while it is very troublesome from its odour, appears from M. Guyton's experiments to act only in a slow and inefficacious manner.

The nitrous acid by its odour, shews a very considerable degree of expansive power. But he observes, that its first effect upon the air is to absorb a portion of its oxygen, and thus deprive it of the principle essential in respiration. From M. Guyton's experiments, he thinks it almost impossible to disengage the nitric acid, by means of concentrated sulphuric acid and heat, without the appearance of some red fumes, from the very commencement of the operation. He indeed acknowledges, that according to the method recommended by Dr Smyth, and employed by Mr Menzies, by employing only vessels perfectly clean, by using both acid and nitre of the utmost degree of purity, by preserving an uniform heat in the sand-bath, and by carefully avoiding carrying the apparatus near the faces of the sick, the vapours may be prevented from

from incommoding the patients. But these precautions, he observes, are difficultly fulfilled, even under the direction of an intelligent man. And after combating the observations of Mr Keir, he concludes from his experiments, that the nitrous acid does not impart to the air any additional portion of oxygen, but that it is in almost every instance really impoverished of this article, from some particles of the vapour being oxydated at the expence of the air.

M. Guyton next proceeds to the consideration of the muriatic acid. This acid, by its property of forming a permanent gas, by its great expansibility even in a state of humid vapour, possesses, he thinks, a well-marked superiority as an agent for disinfecting the air. It is now many years since the late Dr Johnston of Worcester, suggested the use of it with this intention, as appears from the following extract of a work of his, entitled, "An Historical Dissertation concerning the Malignant Epidemical Fever of 1756, with some account of the malignant diseases prevailing since the year 1752 in Kidderminster."

After speaking of various means of purifying the air, by means of myrrh, camphor, vinegar,

gar, &c. he observes, “ These are the most
“ commodious, if not the most useful, methods
“ of medicating the air, which the patient
“ breathes. However, those who prefer the
“ mineral acids, may order brimstone to be
“ burnt, or may raise the marine acid very
“ easily, by putting a certain quantity of com-
“ mon salt into a vessel, kept heated upon a
“ chafing-dish of coals: if to this a small
“ quantity of oil of vitriol is from time to
“ time added, the air will be filled with a
“ thick white acid steam. But both the ma-
“ rine and sulphureous acid must be dis-
“ charged at a considerable distance from the
“ patient, otherwise the extreme pungency
“ will be offensive to the lungs.”

From many of M. Guyton's experiments, particularly the 29th, 30th, 31st and 32d, its decided advantage in destroying putrid vapours, not only from its greater activity and the rapidity of its effects, but likewise from the convenience of the operation, was manifest. There can be no doubt that this acid vapour, diffused in a state of great activity in the air of a room, so as to be capable of acting very powerfully upon metals, placed in the most remote corners of it, is borne without
the

the smallest inconvenience. To determine this point, during the last summer, Dr Duncan *senior*, with the aid of some ingenious students, made several trials in his experimental room in the College of Edinburgh. The object of these experiments was to determine, whether the exposure of the human body, for some length of time, to certain vapours, would produce any manifest change on the heat, the pulse, or the respiration. Some account of these experiments, after they have been repeated, extended, and diversified, may perhaps be published. At present we may only observe, that when a room was filled with muriatic acid gas, extricated from common salt by means of sulphuric acid, it had no influence either in increasing the heat of the body, quickening the pulse, or disturbing respiration, upon more than a dozen of different young gentlemen. Other animals, particularly rabbits, and birds of different kinds, breathed in the air in which this acid was diffused, without the smallest inconvenience, at a time when its influence on iron, to a very high degree, was marked by the most unequivocal appearances. Hence there can be no doubt, either of its powerful influence, or

of the perfect safety and facility with which it can be employed.

M. Guyton, however, with much satisfaction, observes, that by the progress of chemistry, we are furnished with still more powerful means of removing the scourge of contagion. And he does not hesitate to affirm, that the oxygenated muriatic gas will be found the most certain and commodious preservative against this evil. Here he particularly mentions a dissertation, under the form of thesis, which was defended at the School of Medicine of Paris, on the 19th of April 1791, by A. L. Guilbert, the title of which was, "*Dissertatio Medica, de Nova Infectionis, fortasse Contagionis, destruendæ Methodo.*" In this dissertation, the author does not confine himself to the consideration of the violence with which the oxygenated muriatic acid gas acts upon metals at every temperature, the promptitude with which it thickens fixed oils, burns volatile oils, transforms their emanations into sensible vapours, effaces their colour, radically destroys their odours, and decomposes ammonia; but he examines also its action on animal matter, which is sufficiently powerful for destroying the equilibrium of their constituent

stituent principles. He attends also to the constriction which it produces on the skin, the manner in which it affects the mucous membrane, its tendency to neutralize septic miasmata diffused in the air, or adhering to infected bodies; and he contends, that it ought to be regarded as the best anti-contagious substance with which we are yet acquainted.

This dissertation, with which M. Guyton was unacquainted when he instituted his experiments on putrid air, furnishes him also with another observation, which agrees perfectly with his own. The author, in dissecting a dead body, with M. Vauquelin, successfully employed the oxygenated muriatic acid gas for destroying the pernicious odour which exhaled from the body. And, for answering this purpose, he employed the preparation which M. Guyton has named the *Extemporaneous Oxygenated Muriatic Acid*, by means of which, as has already been observed, this gas may be instantly obtained without the smallest difficulty.

M. Guyton next presents us with some observations on the influence of oxygen in the process of disinfection.

No one, he observes, is now ignorant, that it is the presence of a certain quantity of oxygen, which renders air fit for respiration. But from this circumstance, we are no more warranted to attribute to it any medicinal virtue, than to aliments, which are also necessary for the support of life. This question, then, must be examined under a different point of view, by considering the action of oxygen, both on parts of an animal to which it is directly applied, and likewise on the whole frame of the living body, when it is introduced in an uncommonly large proportion even by the organs of respiration.

From the properties of oxygen, in different states of rarefaction and condensation, and particularly from the qualities which it produces in those substances with which it enters into combination, many celebrated physicians have not hesitated to admit it among the number of principles, the energetic action of which may operate changes, which have a tendency to attenuate morbid matter, or to re-establish order in the animal functions. Mr Keir, however, has refused to allow it any medicinal power, which M. Guyton endeavours to shew is inconsistent with his own reasoning.

reasoning. He observes, that of all the principles hitherto known, oxygen is one of the most simple, the most active, and that which changes, in the most complete manner, the sensible qualities and intrinsic properties of all bodies. From this, he thinks it impossible that it can be without effect in diseases. More than forty years ago, M. Venel predicted, that if ever the occult action of medicines was discovered, it would be found to be chemical ; and M. Guyton thinks, that what he predicted, has, at least in part, been fulfilled with respect to oxygen. It is not, he tells us, an hypothesis, but a fact, that oxygenated substances are medicinal to a higher degree, in proportion as they contain more oxygen, and yield it more easily to animal matters. Thus, in the extended scale of medicinal agents, from the slightest alterant to the strongest corrosive, this condition alone explains, he thinks, all their differences ; a circumstance, which has led some to divide medicines into the two great classes of Superoxygenants and Defoxygenants. But into discussions on this subject, our author observes, it would be foreign to his present business to enter.

It has been held by some, that fire is an universal purifier, and heat has been considered as the only agent in combustion ; but it is now ascertained, M. Guyton remarks, to be only a particular effect, and often independent of the affinity of the combustible body with the inflammable principle or oxygen. Thus, combustion often exists without sensible heat ; which is only necessary to produce that temperature at which the affinity operates. It is to the oxygen alone that the property belongs of breaking those bonds which unite organized matter.

Dr Rollo, in his treatise on Diabetes, relates many facts which concur in establishing the medicinal power of oxygen. Guided by these, he extended his views to different kinds of ulcers. Besides those known by the name of Hospital ulcers, he discovered one of a peculiar nature, arising from a deleterious germ which attached itself to a part of the sore, and which had, like other virus, the property of assimilation, and which from thence had its virulence augmented, although it did not affect those ulcers which have a specific character, as the venereal, scrofulous, variolous, or the like. He attempted to destroy, chemically,

this

this poisonous substance. Oxygenants appeared to be peculiarly indicated. He therefore employed nitrate of silver and mercury ; but above all he used the oxygenated muriatic acid, both in a liquid and gaseous state. The sores were soon cicatrized ; and this treatment failed only in those cases, where the ulcers were of such an extent, that it was not possible to act upon them properly, either by the nitrate of mercury, or the oxygenated muriatic gas. To shew that the signs of chemical action keep pace with the curative effects, in instances of this kind, M. Guyton observes, that an ulcer having been sprinkled with a considerable quantity of the nitrate of mercury, well powdered, in twelve hours the mercury formed a shining stratum, which was solid, and appeared in part reduced. To these, he tells us, he could add many other facts, which place beyond all doubt the medicinal properties of oxygen. But he thinks it sufficient to conclude this article, by relating a fact, communicated to him by M. Hallé, an intelligent physician. In 1787, Hallé in conjunction with Fourcroy, made trial of oxygenated muriatic acid, in the case of a woman affected with a large cancer in the

breast. A cure was not accomplished, but the simple application of linen impregnated with this acid, produced a remarkable change; the fetor was much diminished, the colour of the sore was improved, and the discharge from it became less ferous.

M. Hallé found, that from the internal use of the oxygenated muriatic acid, prepared with oxyd of manganese, hectic fever was suspended in a patient sinking under pulmonary suppuration, and that he died without diarrhœa. The strongest oxygenated muriatic acid was employed, but it was diluted in such a manner as to produce only a slight sensation of constriction in the throat. More than a pint of water must be added to half an ounce of the acid, and this quantity may be used in the space of twenty-four days. From trials made on himself, M. Hallé found that it produced no other disagreeable effect than a slight sense of constriction in the throat. But he experienced an increase of appetite, and an acceleration of digestion; and the testimonies of his patients have confirmed these observations.

In the employment of oxygenated muriatic gas, the greatest care must be taken that it be perfectly

perfectly pure: For there is reason to believe, that great inconvenience has resulted from an admixture with different articles, particularly with lead.

From these observations, M. Guyton is led to consider oxygenants, and particularly the oxygenated muriatic gas, as preservatives against contagion; and he thinks, that from a sufficient number of facts, he has established, beyond the possibility of doubt, that oxygen, and the substances which may be employed as vehicles for this principle in a state favourable for new combinations, excites in reality the actions of life, augments the heat, restores the strength, rouses the sensibility, and thus imparts to all the motions of the body that regularity which preserves the order of the different functions of the animal economy. Thus, he infers that oxygen, and particularly the gaseous oxygenants, produce two effects of the same tendency. They exert on the contagious miasmata an affinity which decomposes them; and they aid the living human body in resisting that power of assimilation, which renders contagion dangerous after it is introduced.

M. Guy-

M. Guyton next proceeds to consider how far the same means are applicable in the different species of contagion. After some observations on several different diseases, particularly canine madness and plague, he concludes, by observing, that in the oxygenated muriatic acid we have a subtile fluid, which, when once disengaged from its principles, flies off on its own wings, suddenly diffuses itself through the most extensive chambers, leaves not a point there untouched, and touches nothing which it does not affect; which radically destroys colours, tastes, and the most disagreeable odours; which spontaneously inflames oils, sulphur, and even metals; and which, in fine, destroys the texture of all organized matter; and of which animated beings cannot receive the slightest impression, without an extraordinary sensation informing them of its presence.

Behold, then, says he, the grand instrument of disinfection, which modern chemistry has brought to our knowledge, and which it has taught us to manage, not only without danger, but with the certainty of producing the most salutary effects.

Thus,

Thus, he adds, the application of principles the most evident, the results of experiments the most decisive, the consequences of observations drawn from the best sources, equally concur in establishing the general conclusion of its power in combating all contagions. If the air which habitually supports both the heat and life of animals, sometimes becomes the source of the most cruel diseases from those miasmata with which it is poisoned; if, at a certain degree of depravation of the fluids of the body, they form a contagious virus, the germ of pestilence; the progress made in the study of natural sciences, has placed in our power preservatives to arm us against the fatal impression; it has furnished us with æriform fluids, which restore salubrity to the air, with agents sufficiently powerful to deprive those destructive germs of all the power of development. Such are the properties of oxygen, of superoxygenants, and above all of the oxygenated muriatic acid gas.

In the fourth part of this treatise, M. Guyton begins with an enumeration of the preservative and anticontagious agents, and offers some observations on the manner in which they should be employed. After some obser-
vations

vations on water, lime, resinous substances, fires, sulphur, vinegar, pyroligneous acid, acetic acid, sulphuric acid, nitric acid, and muriatic acid, which he considers both as the most convenient and the most powerful, particularly under the form of oxygenated muriatic acid gas; he observes, that among the substances capable of rapid evaporation, and of producing the salutary effects of the most powerful superoxygenants, we may rank the oxygenated muriate of tin, the liquor fumans Libavii. This was proposed in 1780, by Vicq-d'Azyr, as a preventive of the danger attending exhumations; a circumstance which, he observes, does great honour to the sagacity of that eminent physician.

This fuming liquor of Libavius, M. Guyton observes, is now demonstrated to be a combination of tin with the oxygenated muriatic acid, in the highest degree of concentration. Such, he remarks, is the quality of this liquid salt, that it is not possible to open a phial containing it, without all that are present being immediately affected with the irritating vapours, which spontaneously diffuse themselves in the air, and the influence of which is immediately manifested by coughing ;

ing ; while at the same time they act powerfully on the contagious miasmata diffused in the air.

This liquor, which ought always to be kept in phials closely stoppt, often occasions such a firm adhesion of the stopper to the bottle, that it becomes necessary to break the neck of the phial. From this circumstance, preservatives against contagion, more easily managed, and which produce less violent sensations, are often preferred. There are, however, cases, as pestilential contagion, where the means of prevention cannot be carried to too great a height, and where timid circumspection would be justly reproachable.

M. Guyton concludes this treatise, with a description of the anticontagious and preservative processes. The simple process of fumigation with the muriatic acid, he directs to be performed in the following manner.

When it is intended to purify the air in the wards of an hospital, a chafing-dish is to be placed in the centre of the ward, and in it an iron-pot half filled with sand or ashes. On this sand-bath must be placed a glass-vessel, containing muriate of soda ; and when this salt begins to be heated, sulphuric acid is to

be

be poured upon it, after which the doors and windows of the ward must be kept as closely shut as possible, for seven or eight hours.

For purifying the air of a ward, containing twenty beds, about nine ounces of common salt, and seven of sulphuric acid, will be required. Such is the method employed in empty wards, where no particular objection occurs either to the duration or intensity of the vapour, and where it is intended to produce at once a complete purification. But where patients cannot be removed from the ward, the vapour must be managed with more caution. The vessel containing the warm salt, is in that case to be carried round the ward, and the acid poured upon it by degrees. By this means, the extrication of the vapours may be made to take place at any point, and in any quantity that may be judged necessary, without the smallest inconvenience to the sick. It is not absolutely necessary that the salt should be heated; for without this the vapour will be copiously discharged, although at the expence of a little more salt.

When a chamber is to be purified, in which a patient has died of a contagious disease, or
in

in which bodies, in a state of high putrefaction, have remained for some time, the quantity of fumigating materials must be large in proportion to the room. The whole of the acid is, in that case, to be poured at once upon the salt. The operator then retiring, must shut the chamber, which is not to be opened for several hours.

Having mentioned the oxygenated muriatic acid, as the most powerful agent for disinfection, and as the most efficacious preservative, he next gives some directions for this species of fumigation. The following table exhibits the proportions of the materials which M. Guyton recommends.

	<i>Decagrammes.</i>	<i>Oz.</i>	<i>Dr.</i>	<i>Gr.</i>
Common salt,	10	3	2	10
Black oxyd of manganese, . 2		0	5	17
Water,	4	1	2	33
Sulphuric acid,	6	1	7	50

The black oxd of manganese is first to be reduced to a powder, and after this powder has been triturated with the salt, they must be put into a glass or stoneware vessel, and the water added to them; and, lastly, upon this
the

the sulphuric acid is to be poured. The whole acid may be poured on at once, where it is intended to purify an uninhabited room ; but when it is intended to purify wards, which the sick cannot leave, it must be poured on gradually at two or three different times.

It is unnecessary to observe, that these modes of fumigation, by means of the muriatic acid, are so simple and easy of execution, that they may, without the least difficulty, be used by almost any sensible person ; and that all the expence of the materials is but a mere trifle, while the advantage in preserving useful lives is beyond all calculation. We must therefore express an earnest wish that they may be strongly recommended by medical practitioners, especially for preventing contagion in the habitations of the lower class, when any of the family are subjected to fever.

It was with sincere pleasure and satisfaction we observed, that the British Parliament had lately voted a pecuniary reward to Dr Carmichael Smyth, for his ingenious and important discovery of destroying contagion by that gas which is extricated on the decomposition of nitre, by pouring on it the sulphuric

phuric acid ; and from our own experience in the wards of hospitals where contagious fever has prevailed, we can with confidence affirm, that the process which he has recommended has been productive of the most beneficial consequences. We are however inclined to think, that the oxygenated muriatic acid used in the manner directed by M. Guyton, affords both an easier and more effectual means of destroying contagion. We trust, therefore, that the present Government of France will bestow an adequate reward on their meritorious citizen, for the great labour and pains which he has bestowed, as well as for the high degree of genius and judgment which he has displayed, in establishing, confirming and publishing a discovery of the highest national importance.

But whether he shall or shall not receive from his own nation a proper compensation for his services, he is, in our opinion, entitled to the best thanks of mankind in general, for the means with which he has furnished them of preserving human life in situations of very great danger. Those medical practitioners, who, from trusting to the absurd idea, that no fever is contagious, or from motives no less

culpable, shall hereafter neglect to employ with proper assiduity the means of destroying infection which he has pointed out, are, in our opinion, guilty of a highly criminal omission. Although we have here endeavoured to present to our readers a pretty full analysis of this important work, with the addition of some observations which our own experience has enabled us to make, yet we cannot conclude, without recommending to them an attentive perusal of M. Guyton's work at large; and we are happy to find, that an accurate and elegant English translation has lately been published at London by Dr Robert Hall, entitled, "A Treatise on the Means of Purifying Infected Air, of preventing Contagion, and of arresting its progress." This translation, which may not only be highly useful to medical practitioners, but also to many of those unacquainted with the French language, who are employed in different duties about hospitals, came to our hands after the above analysis had been prepared for the press, and will, we hope, tend more speedily to realize the hopes cherished by M. Guyton, that the most powerful anti-contagious agents will soon be generally employed among civilized nations.

II.

A Letter to Dr Percival on the Prevention of Infectious Fevers, and an Address to the College of Physicians of Philadelphia, on the Prevention of the American Pestilence. Read to the Literary and Philosophical Society of Bath. By John Haygarth, M. D. F. R. S. London, and F. R. S. and R. M. S. Edinburgh, and Member of the American Academy of Arts and Sciences. 8vo. Bath. 1801.

ALTHOUGH we would fain flatter ourselves with the hope that the important discoveries made by M. Guyton, and the elaborate work which he has published, will do much in destroying and preventing contagion, yet a subject so interesting claims the utmost attention from every medical practitioner. Any work on this subject from the pen of Dr Haygarth, whose writings on the contagion of small-pox are already well

known to the public, and have deservedly been held in very high esteem, may well be presumed to deserve serious consideration.

In the letter now before us, Dr Haygarth begins by stating some preliminary principles respecting the contagion which most frequently produces what has been denominated by the various names of the low, flow, nervous, putrid, petechial, malignant, pestilential, jail, ship, camp, or hospital fever, and which, since the publication of Dr Cullen's Nosology, is now generally known by the name of Typhus.

After giving a brief description of this disease, Dr Haygarth tells us, that his observations to discover the laws by which this febrile infection is communicated, began in two Cheshire villages, at Raby, in 1780, and at Barrow, in 1781. Some circumstances which then occurred to him, led him to conclude, that in typhus, the period for which the contagion may remain latent is much longer than in small-pox. Mr Cheers, a farmer of Barrow, on the 21st of April 1781, went a journey to Manchester, &c. He returned home on the 24th. At that time his family and neighbours were entirely free from all epidemical

mical distempers. He was attacked by infectious fever on the 22d of May ; that is, on the twenty-ninth day after his arrival at his own house. After this, sixteen other persons in his family were affected with a similar fever. The particular day of the attack of each, Dr Haygarth has stated under the form of a Table. Mr Cheers' wife, who was his constant nurse, and exposed to the infection from the beginning, did not sicken'till the thirty-seventh day. Here, then, between typhus and small-pox, there was a very striking difference.

This excited in Dr Haygarth an anxious desire to determine, whether this circumstance was established or refuted, by more extensive observation. With this view he carefully collected facts, and he has exhibited the progress of infection through different families, in the following table.

TABLE.

Progress of infectious Fevers in Families.

Families.	Patients.	Date when at- tacked.	Date when Fe- ver began after exposure to Infection.	Infected.	Uninfected.
i.	1. Mr Cheers.	May 22, 1781.	29th,	} 17	3
	2. Mr Jas. Cheers.	June 13,	23d,		
	3. Nancy Walkely,	— 20,	30th,		
	4. Nelly Oulton,	— 20,	30th,		
	5. Tho. Langley,	— 20,	30th,		
	6. Master Cheers,	— 27,	37th,		
	7. Mrs Cheers,	— 27,	37th,		
	8. Miss Cheers,	— 27,	37th,		
	9. Mr S. Cheers,	— 27,	37th,		
	10. John Nield,	— 27,	37th,		
	11. { Mary Newport	— 27,	37th,		
	12. { and husband,				
	13. Nancy Rowlands,	July 4,	44th,		
	14. Jas. Thomson,	— 8,	48th,		
	15. Mary Deakin,	— 24,	15th,		
	16. Martha Sefton,	— 24,	63d,		
	17. Robt. Bentley,	Aug. 7,	23d,		
ii.	18. Mich. Adams,	Feb. 28,	} 4	c	
	19-20. S. & E. Adams,	March 25,			26th,
	21. John Adams,	— 25,			26th,
iii.	22. Ann M'Donald,	March 10, or	1st, or 25th,	1	c
		April 3 ^d			
iv.	23. Eliz. Fleet,	April 3,	25th,	} 6	c
	24. Sarah Fleet,	May 5,	33d,		
	25. T. Fleet, jun.	May 28,	56th,		
	26. Tho. Fleet, sen.	— 30,	58th,		
	27. Mary Fleet,	June 1,	60th,		
	28. Wm. Fleet,	— 4,	63d,		
v.	29. Wm Griffith,	March 8,	} 2	c	
	30. Mary Griffith,	— 30,			23d,
				30	c

TABLE continued.

Patients.	Date when at- tacked.	Date when Fever began after expo- sure to Infection.	Infected.	Uninfected.
31. Eliz. Robinson,	March 30,		30	3
32. Mary Robinson,	May 3,	35th,	}	0
33. A. Darlington,	June 14,			
34. T. Darlington,	— 30,	17th,		
35. E. Darlington jun.	July 8,	25th,		
36. E. Darlington sen.	— 10,	27th,	}	0
37. Job Darlington,	— 22,	6th,		
38. Mary Hughes,	June 30,			
39. Thomas Hughes,	July 14,	15th,		
40. John Hughes,	— 26,	27th,	}	0
41. Eliz. Bithel,	— 21,			
42. Edward Bithel,	Aug. 17,	28th,		
43. Thomas Edson,	July 19,	Not more Not less.		
44. Jane Edson sen.	Aug. 1,	16th, 12th,	}	0
45. Jane Edson jun.	— 16,	28th, 24th,		
46. John Edson,	— 18,	30th, 26th,		
47. Humphrey Edson,	— 31,	31st, 27th,		
48. Jane Parry,	July 31,	17th,	}	0
49. J. Edwards jun.	June 12,	5th,		
50. Sarah Edwards,	July 5,	24th,		
51. H. Edwards,	Aug. 1,	51st,		
52. J. Edwards sen.	— 26,	76th,	}	0
53. Hoskinson. Son,	{ July 27,			
	{ C. home 28,			
54. ——— Mother,	Aug. 23,	27th,		
55. ——— Father,	— 24,	28th,	}	0
56. ——— Daughter,	— 24,	28th,		
57. — Another Child,	— 29,	33d,		
58. ——— Another,	Sept. 25,	60th,		
59. ——— Another,	— 31,	60th,	}	2
			59	

TABLE continued.

Families.	Patients.	Date when attacked.	Date when Fever began after exposure to infection.	Infected.	Uninfected.
xiv.	60. Littlemore. 1st child	Aug. 5,		59	3
	61. — Mother,	— 31,	27th,	5	1
	62. — 2d child,	Sept. 2,	29th,		
	63. — 3d child,	— 5,	42d,		
	64. — 4th child,	Uncertain,		2	0
	65. — Father,	Not infected,			
xv.	66. Dod. Wife,	Sept. 14,	40th,		
	67. — Husband,	Oct. 4,	21st,	18	0
xvi.	68. Thomas Davis,	June 13,	9th,		
	69. Alice Parkinson,	Aug. 1,	50th,		
	70. Joseph Walton,	— 8,	57th,		
	71. Joseph Davies,	— 12,	13th or 61st		
	72. Miss E. Sutton,	— 13,	15th or 62d		
	73. S. Davies,	— 14,	63d,		
	74. Miss B. Sutton,	Sept. 27,	46th,		
	75. Mr Sutton,	75-85. These			
	76. Mrs Sutton,	eleven patients			
	77. Mr T. Sutton,	were all affected			
	78. Mr Jos. Sutton,	with Fever,			
	79. Mr John Sutton,	but not so as to			
	80. Mr A. Sutton,	confine them.			
	81. R. Br.	They had head			
	82. A man-servant,	ach, pain of the			
	83. Another,	limbs, thirst,			
	84. Another,	languor, &c.			
xvii.	85. Another,			3	0
	86. Eliz. Davies,	July 4,	22d,		
	87. Joseph Davies,	— 30,	48th,		
	88. John Davies,	Aug. 14,	16th,		
				87	4

TABLE continued.

Families.	Patients.	Date when attacked.	Date when Fever began after exposure to infection.	Infected.	Uninfected.
xviii.	89. P. Walton,	July 28,	16th,	87	4
	90. Mary Walton,	Aug. 12,	—		
	91. Betty Walton,	— 20,	24th,		
	92. A child,	Sept. 28,	63d,	8	0
	93. Another,	Doubtful,	—		
	94. Another,	Doubtful,	—		
	95. Another,	Doubtful,	—		
	96. Another,	Doubtful,	—		
xix.	97. R. Dod's wife,	Aug. 21,	21st,	4	0
	98. R. Dod,	Sept. 13,	2 h,		
	99-100. Two Inf ^{ts} .	Doubtful,			
xx.	101. Johnson. Son,	Sept. 26,		2	1
	102. — Mother,	Oct. 25,			
	103. — Father,	Not infected			
		Dec. 1,			
				101	5

These facts, in Dr Haygarth's opinion, clearly prove, that a very large proportion of mankind are susceptible of infectious fever. As many persons, he thinks, are liable to receive the typhus as the variolous contagion, nay, probably more, even when persons who have had the small-pox are

are excluded the comparison, and in a far greater number, when we take into consideration, that the latter distemper can only be suffered once, but the former an indefinite number of times.

Upon this foundation, Dr Haygarth observes, it may be fairly argued in what circumstances febrile infection is communicated, and where there is perfect safety from danger. Though the exact line between hazard and security, might be drawn with some uncertainty yet at any distance on each side of it, we can speak with decisive confidence. Dr Haygarth, on the subject of small-pox, had formerly calculated, that when three or more persons together have escaped the small-pox, we are warranted to infer, that all of them have not been exposed to the contagion. This reasoning, he concludes, is equally applicable to typhous as to variolous infection. If all the cases where persons have breathed the air of the chamber of a patient ill of a contagious fever, and yet have escaped infection, were estimated by Dr Haygarth's mode of calculation, the chance is many thousands to one, that such persons have not been exposed to an infectious dose of the poison.

With

With these preliminary principles, he next proceeds to inquire what dose of the typhous poison is required to produce infection. The quantity he allows will undoubtedly vary by different circumstances ; but still he thinks we may judge with some accuracy what are the limits of this variation.

To contrast facts of public notoriety with those recorded in the table, Dr Haygarth observes, that when the chamber of a patient ill of a contagious fever is spacious, airy and clean, few or none of the most intimate attendants will catch the distemper. Medical practitioners, indeed, are exposed to more imminent danger, as they often visit patients ill of infectious fever in close, small and dirty apartments ; yet Dr Haygarth observes, with regard to himself, that during four years attendance in the hospitals of Edinburgh and London, and during thirty years practice in Chester, he had been in the habit of breathing air strongly impregnated with febrile infection, and yet never but once had a fever. In a similar manner, the Physicians of the Manchester Infirmary, during widely spreading epidemics in that large and populous town, with great fortitude and humanity visited patients,

tients where, they breathed the most pestilential air in the most concentrated state, without any bad effect. Their safety, Dr Haygarth concludes, as well as his own, proceeded from their having remained but a short time in the patient's room, and thus from their not having respired what might be called an infectious dose of the poison.

Hence he infers, that air strongly impregnated with infectious miasms, may be breathed for a short time, and air weakly impregnated for a long time, without any injury ; and we might, he thinks, be led to believe from some facts, that the poisonous miasms do not generate fever, till they have been respired without interruption for several days together ; and in some persons such an accumulated quantity of the poison may be required. Other facts, however, manifestly prove, that in some instances even a very short exposure to a pestilential atmosphere will, with certain individuals, excite fever ; an evident proof how much the influence of the contagion is regulated by circumstances.

It is generally allowed, Dr Haygarth observes, that putrid fevers are generated by a great number of persons crowded together

in

in the same room, as in jails, ships, &c. probably from some depravation or corruption of the air by respiration. To this cause he thinks we may probably ascribe some events which might otherwise seem objections to the preceding observations. To this cause he is disposed to attribute those fevers which have unfortunately been caught by medical students attending fever patients in the Royal Infirmary at Edinburgh. In such large and well-ventilated apartments, it cannot, he tell us, be apprehended, that an infectious fever could be communicated, unless when, as there happens, the students are very numerous, and constantly crowd round the beds of the patients afflicted with fevers. Here, then, two causes of fever are, he observes, combined, the air being vitiated both by febrile miasms and by respiration.

In our opinion, however, two other causes have operated still more powerfully in producing fevers among the medical students of Edinburgh. Most unfortunately, an opinion has of late been adopted by many of them, and has even with foolish obstinacy been defended in some inaugural dissertations, that typhus fever is not a disease which can be
communicated

communicated by contagion. This very erroneous doctrine, *et nil tam absurdum, quod non dixit aliquis philosophorum*, has led several of the students, contrary to the strongest admonitions from the Professors, both in public lecture and private conversation, to expose themselves very improperly, and for a considerable length of time, to the contagious effluvia, immediately emitted from the bodies and breath of patients labouring under malignant fevers, where every expiration made by the patients, in attempting to answer questions put to them, could not fail to operate as a powerful source of contagion. From this cause, and particularly from taking down in writing the cases of fever-patients from their own mouths, on their bed-sides, several Edinburgh students at the clinical wards have been infected with fever.

But another cause has operated still more frequently. From ill-judged friendship and affection to each other, several students at Edinburgh have been infected with fevers, in consequence of their becoming nurses to sick companions of their studies. In this way, it has been known, in several instances, that one student infected with fever, has communicated

ted the disease to several of the companions of his studies, not one of whom was attending the Hospital at the time.

As far as these causes have operated, and of their operation to a certain extent, there can be no doubt, fevers caught at the Edinburgh Hospital, which is perhaps as well ventilated as any one in the British dominions, are no exceptions to Dr Haygarth's general doctrines, and by a moderate degree of prudence on the part of the student himself, they may be readily avoided ; especially as the whole evidence which Dr Haygarth has been able to collect, leads to the very important conclusion, that febrile infection extends but a very narrow sphere from the source of the poison. Upon this solid foundation, he ventured many years ago to propose the reception of patients, ill of contagious fever, into wards appropriated to the purpose in the Chester Infirmary ; and the success of this measure has confirmed the truths of the doctrine.

In an investigation of the nature of typhus contagion, it is necessary to inquire how early, after its commencement, the fever becomes infectious. From some cases which he mentions, it appears that a fever may communicate

nicate contagion by the fourth or fifth day. After contagion is communicated, it often remains latent in the person infected for a considerable time. It is a common opinion, that fevers frequently begin immediately after exposure. But Dr Haygarth thinks this a very rare occurrence ; and from the facts which he has stated, it appears that the latent period of infection varies from a few days to two months.

From the particulars now stated, respecting febrile contagion, Dr Haygarth draws several practical conclusions. In the *first* place, he observes, That medical, clerical, or other visitors of patients in infectious fever, may fully perform their important duties with safety to themselves. The following are the rules which he lays down for preventing infection.

“ 1. As safety from danger entirely depends on cleanliness and fresh air, the chamber-door of a patient, ill of infectious fever, especially in the habitations of the poor, should never be shut. A window in it ought to be generally open during the day, and frequently in the night. Such regulations would be highly useful, both to the patient and to nurses ; but are particularly important previous to the arrival of any visitor.

“ 2. The

“ 2. The bed-curtains should never be close drawn round the patient ; but only on the side next the light, so as to shade the face.

“ 3. Dirty clothes, utensils, &c. should be frequently changed, immediately immersed in cold water, and washed clean when taken out of it.

“ 4. All discharges from the patient should be instantly removed. The floor near the patient's bed should be rubbed clean every day with a wet mop or cloth.

“ 5. The air in a sick room has, at the same time, a more infectious quality in some parts of it than others. Visitors and attendants should avoid the current of the patient's breath ; the air which ascends from his body, especially if the bed-curtains be closed ; and the vapour arising from all evacuations. When medical, or other duties, require a visitor or nurse to be placed in these situations of danger, infection may be frequently prevented by a temporary suspension of respiration.

“ 6. Visitors should not go into an infectious chamber with an empty stomach. And in doubtful circumstances, on coming out, they should blow from the nose, and spit from the

mouth, any infectious poison which may have been drawn in by the breath, and may adhere in those passages.”

By proper attention to these rules of prevention, Dr Haygarth is convinced, that in any house with spacious apartments, the whole family, even the nurses of a patient ill of contagious fever, may be preserved from infection; and schools may be preserved from febrile infection.

In an hospital, Dr Haygarth observes, infectious fever ought never to be admitted into the same wards with persons ill of other diseases. And when an infectious fever is in a small house, the family cannot be preserved from it, unless the patients be removed into a separate building.

In the Infirmary at Chester, fever-wards have been long established, without the other patients in the hospital being ever infected by them. It would therefore appear, that the rules there adopted, for preventing the infection of other patients, are fully sufficient. These rules, established in the year 1783, are the following:

1. Fresh water and coals are to be brought up to the fever-ward every morning, and other necessaries, on ringing a bell.

2. No

2. No fever-patients, nor their nurses, are suffered to go into other parts of the house. No other patient is allowed to visit the fever-wards, nor any stranger, unless accompanied by the apothecary or his assistant.

3. Every patient, on admission, is to change his infectious for clean linen. The face and hands are to be washed clean with warm water, and the lower extremities fomented.

4. All discharges from the patient are to be taken out of the ward as soon as possible.

5. The floors of the wards are to be washed very clean twice a-week, and near the beds every day.

6. All foul linen is to be immediately thrown into cold water, and carefully washed twice out of clean water in the adjoining room.

7. Blankets, and other bed and body clothes, are to be exposed to the open and fresh air, for some hours, before they be used by another patient.

8. All the bed clothes of the fever-ward are to be marked *Fever-Ward* ; and all the knives, forks, pots, and cups, and other utensils, are to be of a peculiar colour, lest they be inadvertently taken among other patients.

9. Several windows in the fever-ward are to be constantly open in the day, unless the weather be very cold or wet ; and some of them should not be shut in the night, if the patients be numerous, and the weather moderate.

10. No patient can be suffered to wear, nor any acquaintance to take away, any linen unwashed ; nor any clothes, till they have been long exposed to the fresh air.

That these regulations are highly proper and judicious, no one who has paid serious attention to the subject will doubt ; and many of them may with great propriety be adopted in every private family into which an infectious fever happens to be introduced. But neither in hospitals, nor in private families, will it be possible to prevent many transgressions : and the conjunction of all these regulations, executed with as much exactness as can be obtained, may with great advantage be combined with the means of destroying contagion recommended by M. Guyton.

There cannot, we think, be a shadow of doubt, that fever-wards in hospitals, under proper management, are not only free from danger, but are productive of the most important advantages, both to individuals and to the

the public: accordingly, Dr Haygarth recommends, in the strongest terms, that these should be introduced into every hospital in Britain; and this recommendation seems to us to be highly proper. We must confess, that few circumstances have of late surprised us more than the unreasonable violence with which the introduction of fever-wards into the hospital at Newcastle has been opposed by some medical practitioners in that town.

It is a question of considerable importance to determine, whether typhous fever, like the small-pox, be in every instance produced by a specific contagion. Dr Haygarth observes, that the evidence which he has collected on this subject not being completely satisfactory, he considers it as premature to enter into particular details on the subject: but he tells us, that Dr James Fellowes, physician to the army, who has had many opportunities of making observations on fever in Flanders, Holland, and the West Indies, thinks that fevers are frequently generated in a camp by foul air. Ten or twelve soldiers often sleep in a small bell tent, without any ventilation; and the noxious air may readily be supposed to give rise to fever. In a conversation with him upon this subject, Dr Haygarth suggest-

ed a contrivance by grooves in the head of the centre-pole of the tent, to allow the foul air to escape, and yet to keep out rain. And contrivances for these purposes have in some cases been carried into effect with manifest advantage, particularly with the Suffex and West York militia, at Warley camp, in 1796. When the men were questioned on the effect of this contrivance, they universally admitted that they suffered nothing from cold or rain coming in at the holes, or from heat, by having the tent-door shut ; while at the same time, to use their own phrase, the air of the tent *was a power sweeter in the morning*.

As there can be no difficulty in contriving various methods, by openings on the summits of the tent, to permit foul air to escape, and yet entirely to exclude rain, Dr Haygarth thinks that this cause of fever may be totally prevented, while at the same time the propagation of contagion, after it is once introduced, will require that the regulations formerly proposed be executed with the greatest exactness. But he is convinced, that by plentiful dilution with fresh air, and rigid attention to cleanliness, soldiers in a healthy situation might be preserved both from infectious fevers and dysentery ; that thousands of men,
and

and millions of money, might be saved by a sufficient supply and judicious employment of cords and canvass.

The jails in which deserters from the army are confined, for obvious causes are peculiarly exposed to infectious fever. Numbers of this description passing to and from Ireland, are lodged in the Castle of Chester, and have frequently been afflicted with infectious fever. And in this manner, from contagion remaining latent for a considerable time, when deserters are removed to their regiments, or to ships at a great distance, infection has often been introduced into the army and navy. Hence Dr Haygarth remarks, that persons taken out of an infectious jail should never be mixed, with the crew of a ship in particular, till a sufficient time had elapsed to discover whether any latent poison had infected them.

After contagious fever is introduced into a ship, Dr Haygarth observes, that with respect to cleanliness, ventilation, and the separation of the sick from the sound, excellent regulations are already established in the British navy, which he thinks it unnecessary to repeat. He only remarks, that the rules of prevention recommended for fever-wards, ought also to be observed in sick births in ships; and he

adds, that persons ill of infectious fevers may be brought upon deck, and placed indiscriminately among the healthy soldiers and sailors of the vessel, without any hazard of communicating the contagion, provided they be dressed in clean clothes. And on such occasions the sick-births should be perfectly cleansed. To these particulars, however, he allows that in the navy the greatest attention has, during the last war, been paid ; in consequence of which, the sailors in general have enjoyed a high degree of health. He thinks, that from the late medical regulations and improvements, our profession may claim some share of that honour which has been obtained by the late glorious victories of the British navy. These victories could not have been gained by very sickly crews.

To this letter to Dr Percival, of which an analysis has now been given, Dr Haygarth has annexed an address to the College of Physicians at Philadelphia, on the prevention of the American pestilence.

As Dr Haygarth's mind was employed in endeavouring to discover in what manner infectious fevers are propagated, and in devising the best regulations for their prevention, the pestilence which occasioned such dreadful devastations

vastations in America, particularly excited his attention. He has no doubt in asserting, that the most clear, consistent, and complete evidence has been produced, that the contagion was brought to America from the West Indies ; and a deliberate consideration of all the publications on this interesting subject, which he has been able to obtain, contending for different opinions, and attributing the origin of the disease to putrid coffee, prunes, almonds, olives, capers, and the like, did not produce the slightest change of his opinion. These erroneous conjectures, however, led to consequences truly lamentable. Dr Haygarth, therefore, thinks it of great importance to the welfare of America, to review the opinions which have produced these pernicious effects, as tending to discourage every judicious measure for the prevention of that pestilence.

The bold assertions which were made, to prove in particular that the disease was generated by the putrefaction of coffee, are, Dr Haygarth observes, well adapted to frighten the ignorant, but have a very different effect upon the mind of the intelligent ; and, he thinks, contain the clearest proofs of self-contradiction and condemnation ; and he considers it as wonderful, that the physicians, philosophers,

losophers, and statesmen of America, have not opened their eyes against the pernicious delusion, which has so marvelously and dangerously prevailed concerning the origin of this pestilence. But what would be Dr Haygarth's wonder, if, like us, he had seen many medical men from America, who were themselves subjected to the yellow fever in Philadelphia, and who still positively affirm, that it was not in any one instance communicated by contagion. A more pernicious error in opinion, it is hardly possible to conceive.

This error, indeed, we believe, originated from the best of motives. From an idea of the highly contagious nature of the yellow fever, not only was the city of Philadelphia deserted by great part of its inhabitants, but masters were deserted by their servants, children by the parents, and parents by their children. It was perhaps proper to do something to put a stop to this unreasonable panic. But to hold the doctrine, that this fever could not be communicated by contagion, was a remedy worse than the disease. This dangerous doctrine, however, has unfortunately been imported from America to Edinburgh; and among the students of medicine at this place, there are not a few Anti-Contagionists,

as they have been styled. The doctrine, absurd and dangerous as it is, has not only been defended in private conversations, but in the inaugural dissertations of candidates for degrees. At the public trials, however, it has been reprobated by Professors in the strongest terms; and we would fain hope, that it will never again give rise to mischievous consequences, similar to those of which it has formerly been productive. Admitting, what is certainly true, that the common typhus fever of Britain is a highly contagious disease, yet if those means of prevention recommended by Guyton and Haygarth are duly attended to, every office of kind attention, which humanity, duty or affection demand, may be performed without the smallest hazard to the nurse, the physician, or the friend.

The proper means of prevention, however, have by vague and ill-founded notions, Dr Haygarth observes, been almost totally neglected in America; and the measures of government, even in its sea-ports, have been almost totally directed to the destruction of domestic dirt, while scarce a single regulation has been established for destroying the pestilential poison, imported either from the West
Indies,

Indies, or from Philadelphia, New York, Salem, or other towns, when the pestilence existed in these.

Dr Haygarth particularly reprobates, in very strong terms, a work published by Mr N. Webster of Connecticut, on Epidemical and Pestilential Diseases. In that work, the generation of these diseases is ascribed to comets, earthquakes, tornadoes, wild pigeons, large flies, dead haddock, black worms, &c. Mr Webster even ascribes the plague, the scarlet fever, and the small-pox, in one quarter of the globe, to earthquakes, and to storms in another. In some instances, he does not even allow the cause to precede the effect. His imagination darts from earth to heaven, in a kind of phrenzy, and with an inconsistent wildness that would disgrace a poet. Such whimsical and irrational doctrines, cannot fail, Dr Haygarth thinks, to lead to the neglect of measures of real importance.

Both the College of Physicians of Philadelphia, who published clear, consistent, and complete evidence, that the yellow fever was introduced into America from the West Indies, and the Academy of Medicine of Philadelphia, who, in a publication, entitled,
Proofs

Proofs of the Origin of the Yellow Fever, contend, that the disease was generated in America, demonstrate, by numerous facts, that this pestilence was propagated by infection. But they have both fallen, according to Dr Haygarth, into one common error of great importance. The College intimate, that the infection may be caught through the medium of the air, at the distance even of 300 yards from the pestilential poison. The Academy allege, that it may be caught at the distance even of more than a mile. If either assertion were true, no human power could prevent it from infecting the inhabitants of the whole house, street, or even town, into which it happened to be introduced. But fortunately every contagion with which we are yet acquainted, is much more circumscribed in its sphere of action; and what may be called an infecting dose, can in no case be communicated without much nearer connection with the sick.

Dr Haygarth concludes with observing, that he is convinced the progress of this disease may be effectually prevented by those measures which he has recommended in his letter to Dr Percival; the advantages of which have already been confirmed by extensive experience,

perience, both at Chester and other places. And he tells the inhabitants of America, that if these measures were adopted, they would have no occasion to incur the mischievous confusion of deserting their own habitations. If, says he, commodious houses, with large airy chambers, be provided for the reception of patients ill of this pestilential fever; and if effectual care be taken to destroy this poison by separation, cleanliness and ventilation; all danger will soon cease, and all apprehensions of danger will gradually abate.

In concluding our analysis of this important publication, we would only beg leave to add, that while the measures recommended by Dr Haygarth are employed, the destruction of the contagion by means of acid vapours should not be neglected; and that recourse should particularly be had to those which M. Guyton has advised. We would strongly recommend a serious perusal of the publications by Guyton and Haygarth, of which we have here given an analysis, to every American practitioner, whether on the Continent, or in the American islands; for the yellow fever has been equally destructive in both.

III.

Remarks on the Necessity and Means of suppressing Contagious Fever in the Metropolis. By C. Stanger, M. D. Gresham Professor of Physic, and Physician to the Foundling Hospital. 12mo. London. 1802.

IN these remarks, Dr Stanger sets out with observing, that in the immense city of London, the poor are exposed to a variety of wretchedness little known except to those who are obliged to witness their wants and sufferings. Continued labour exhausts their strength, while scanty and unwholesome food affords insufficient support. Air and light are, in a great measure, excluded from their habitations, while damp and cold frequently preponderate. Human effluvia, and exhalations from putrefying vegetable and animal substances, within and about their sordid dwellings, are constantly accumulating, and the atmosphere of one polluted cell is but exchanged for that of another. Besides many other evils, from these causes are often engendered contagious

gious fevers, the most fatal scourge which afflicts mankind. For such, Dr Stanger asserts, have been the ravages of this disease, that it has destroyed commercial and social intercourse, dissolved the obligations of duty, the bonds of friendship, and even the nearest ties of consanguinity.

The different species of contagious fever, which are constantly prevalent in London, though less malignant than the plague or yellow fever, are yet widely destructive; while the circumstances which attend the communication of contagion, its progress and effects are peculiarly deplorable: The latent poison may be imbibed from the necessaries of life, the means of comfort or the sources of enjoyment. It is unwarily conveyed by the gay companion, the faithful domestic, or the affectionate friend. Its unsuspecting victim is sometimes arrested while in the full vigour of health and elevation of gaiety. He is still oftener fatally assailed when debilitated or depressed. The rich are liable to be infected in consequence of the exhausting influence of indolence and excess; the poor from those of toil and want.

Having

Having pointed out these circumstances which thus promote the action of contagion, Dr Stanger next gives a very accurate and elegant description of its progress on the human body. The insidious and unrelenting enemy, says he, saps by degrees the health of the infected, who grows weak and dejected. His countenance appears pale and sunk, his skin fallow, and his whole frame contracted. The head becomes heavy and painful, the mind inert, anxious and confused. The heart is languid and oppressed, the circulation feeble, hurried, irregular. The lungs perform their function with effort; breathing is frequent and audible, and is interrupted by groans and sighs. Alternate chills, flushes and rigours, invade the skin. The muscles feel weary, tender, tremulous; the joints burdened and aching. The saliva becomes viscid, the mouth clammy, the tongue white, and covered with mucus, the taste indistinct, mawkish and disagreeable. Appetite fails; disrelish and loathing of food soon follow. The bowels participate in the weakened and disturbed action of the stomach, and are torpid or irregular. All the secretions are disordered or vitiated. The bile is increased, attenuated, and rendered acrimonious. Some-

times it is accumulated and absorbed, at others it regurgitates into the stomach, or inundates the intestines. A painful sense of weight and weakness oppresses the loins and kidneys. The urine at first pale, limpid and copious, becomes high-coloured, turbid and scanty. The sick, though drowsy and oppressed, is deprived of rest ; or if he sleep, is agitated and disturbed, and wakes unrefreshed.

After giving this account of the commencement, he gives the following picture of the progress of infectious fever : Pain of the head increases ; delirium and stupor ensue. The irritated heart accelerates its motions, and exhausts its powers. The oppressed lungs rapidly convert the air they inspire into a hot, offensive, noxious vapour ; the parched skin burns with an arid consuming heat, or effuses partial, clammy, fetid sweat. Voluntary action is gradually abolished ; involuntary convulsive motions succeed. The solids are relaxed ; the fluids dissolved and effused. The tongue and mouth are parched, and incrustated with fordid mucus. The stomach nauseates or ejects whatever it receives. The bowels accumulate indigested, fetid, putrid contents, with oppressive tension, or pour them out profusely and involuntarily. The urine is
cloudy,

cloudy, dark, thick, offensive. The wan and fallow countenance becomes flushed, bloated, and by degrees muddy, lucid and cadaverous. At length the blood retires from the extremities to the faint and palpitating heart. The chill of extinction follows its retreat. The breath struggles in its passage through the collapsed and obstructed lungs; and the frame, harassed, oppressed, exhausted, sinks into dissolution.

In this manner numbers fall victims to contagious fever. When, among the lower class of labouring poor, a father is thus cut off; his family, Dr Stanger observes, are most commonly left a burden upon the parish, both for support and education for many years. Discredited and debarred by their situation, they must be afterwards apprenticed, or placed, with a compensation, where they can learn the means of earning a livelihood. When a mother is lost, her children, from neglect and consequent disease, from idleness and from vice, often become both a charge and a scourge to the community. Thus, the ravages occasioned by contagious fevers, are productive of a loss to the community almost beyond calculation. It would, therefore, be

a high degree of economy to expend in every parish, and particularly in the parishes of every large town, a considerable sum, on the most effectual measures for preventing the propagation of contagion. This sum, Dr Stanger observes, might be easily raised, by a parochial assessment, or it might be paid out of the ordinary funds, collected for the support of the poor, which would in the end gain very considerably by the deaths of parents being thus prevented.

After thus stating the advantages, and even the necessity of using proper measures for suppressing contagious fever, Dr Stanger proceeds to shew, that, by proper measures, this merciless destroyer may be disarmed and subdued. But as the means which he here points out with very great judgment, coincide, in almost every particular, with those excellent directions respecting cleanliness, ventilation, &c. which are contained in Dr Haygarth's letters, it is now unnecessary to repeat them.

This treatise is concluded with an account of the plan which has been adopted by the Institution for the cure and prevention of contagious fever in the metropolis, and a list of the respectable committee who have undertaken

ken the superintendence of it ; at the head of which stand the names of the Duke of Somerset, the Bishop of Durham, Lord Sheffield, Mr Wilberforce, and several other members of Parliament, together with several eminent merchants, and several physicians, favourably known to the public, both for their medical abilities and their humanity. We are, however, sorry to observe, that the list of annual subscribers to this most important institution, printed at the end of Dr Stanger's remarks, does not contain a hundred and thirty names. This, however, especially when regard is paid to the respectability of the names concerned, may at least be considered as a good beginning. And perhaps there are few subjects which have a better claim to the attention of government. Although there be not, indeed, in this case, the same urgent necessity for the interference of the Legislature as in cases of plague, or some other very fatal epidemics ; yet there are not many ways in which a small portion of the public money, properly bestowed, would be productive of greater advantage to the community. A parochial tax raised for the express purpose of checking the pro-

gress of contagious fever, would not, we are persuaded, be a cause of complaint with any considerate or humane man : And we are not without hopes that a careful perusal of Dr Stanger's remarks may call the attention of government to the prevention of infectious fever.

But even allowing that no public aid can be obtained for this most important design, yet it is to be hoped that the benevolent citizens who have begun this institution will be joined by many others, and will be thus enabled to carry their intentions into execution, to the fullest extent, and with every possible advantage. We trust also, that the example which has been set by London, Chester, Liverpool, Manchester, and some other towns, will soon be followed through every part of the united kingdoms, and that in each parish there will be a regular establishment for enforcing the proper measures for destroying infectious fever.

The plan which has been adopted in London cannot, indeed, be considered as suited for every other place. Each will require some regulations peculiar to itself. But as the London

don plan may serve as a basis for that adopted in other towns, we shall conclude the present article by presenting it to our readers.



“ PLAN adopted by the Institution for the Prevention and Cure of Contagious Fever in the Metropolis.

“ 1. All subscribers of one guinea a-year, or upwards ; or of ten guineas or more in one donation, shall be governors of this institution.

“ 2. The institution shall be under the direction of a committee of thirty-two, consisting of the president, six vice-presidents, the treasurer, and twenty-four other members, who shall be elected by the Governors.

“ 3. All poor persons labouring under infectious fever, and residing within the limits hereafter to be assigned, shall be considered as proper objects of this charity.

“ 4. Houses of recovery shall be provided for the reception of those whom it may be thought necessary to remove from their own habitations. They shall be in airy situations, sufficiently detached from other buildings, and

in the neighbourhood of a populous district of the town.

“ 5. As far as may be practicable, the houses shall be divided into separate apartments, to be appropriated to patients in the different stages of fever.

“ 6. Upon the recommendation of any one for relief by this charity, notice shall be immediately given to the physician, and the patient may be admitted into the house, by an order for that purpose signed by the physician.

“ 7. A chair, provided with a moveable lining, or some other means of conveyance, shall be kept at the house, in which all persons ordered by the physicians to be removed, shall be carried thither at the expence of the institution.

“ 8. Regulations for the internal management of the house, shall be prepared under the direction of the committee, with the assistance of the medical officers of the institution.

“ 9. When the physician shall think the removal of a fever-patient unnecessary, or when the fever shall have ceased in a dwelling-house, measures shall be adopted for the purpose of checking the progress of contagion, or
preventing

preventing the renewal of its effects. The apartments shall be cleaned and white-washed, and the infected bed-clothes and apparel shall be purified or destroyed.

“ 10. A stock of bed-clothes and apparel shall be provided, to consist of such articles as the committee may direct, from which the objects of this charity shall be supplied when it may be necessary.

“ 11. A general meeting of the subscribers shall take place twice every year, viz. on the first Friday in May, and on the first Friday in November. Special meetings of the subscribers shall be called by the president, at the request of the committee, or of any seven governors, seven days previous notice being given thereof, and of the business to be transacted. At the general meeting in May, the president, vice-presidents, treasurer, and other members of the committee, shall be annually elected; eight of the thirty-two members of the committee being to go out, and to be replaced by eight other governors of the institution.

“ 12. The committee shall meet on the last Friday of every month; and at least three members shall be necessary to constitute a meeting.

“ 13. The

“ 13. The committee shall appoint all the officers and servants of the charity. They shall form temporary regulations for the management of the house, and which shall be in force until the succeeding general meeting, but no longer, unless then confirmed.

“ 14. The committee shall from time to time publish a report of the state of the institution.

“ 15. The treasurer shall receive all sums of money paid for the use of the institution, and shall give such security for the faithful discharge of his office as the committee shall think sufficient. He shall make all payments sanctioned by the committee, and shall lay before them, at each meeting, a statement of his accounts; and the same shall be audited and balanced, and submitted to the general meeting in May.

“ 16. The treasurer shall appoint a clerk for collecting subscriptions, and shall be responsible for his conduct. The clerk shall receive such remuneration as the committee shall think proper.

“ 17. The committee shall at each monthly or other meeting, appoint directors of each house,

house, who shall continue in office until the next meeting of the committee.

“ 18. The directors shall give orders for the purifying of clothes and apartments, where the physicians report it to be necessary ; and when application is made for a supply of clothes, they shall give an order in writing for such articles as they may deem requisite.

“ 19. The directors shall order a reward to such amount, subject to the regulation of the committee, as they may think proper, to be given after the cessation of fever, on condition that the rules prescribed for cleanliness, ventilation, and the prevention of infection, have been faithfully observed. The reward shall be proportioned to the degree of previous danger, and the success of the measures by which it shall have been counteracted.

“ 20. The directors, before every meeting of the committee, shall cause the bed-clothes and apparel belonging to the institution to be examined, and shall report thereon to the committee.

“ 21. The directors shall be authorised, in all respects, to aid the execution, and enforce the observance of the regulations of the institution,

tion ; and they shall notice, and, if necessary, report to the committee any irregularity or misconduct on the part of the servants or patients of the charity.

22. The attending physician shall, upon receiving an application in behalf of any object of this charity, ascertain the state of the sick person, either by personal inspection, or by obtaining a satisfactory statement of the case from a physician or apothecary. If it be necessary, either on account of the extreme poverty of the patient, or of the crowded state of his habitation, that he be removed to the house, the physician shall give an order to that effect.

“ 23. The physicians shall visit each house, at such times as may be deemed necessary by the committee, and shall attend at their own houses those patients whom they may not think it proper to remove.

“ 24. The physicians shall keep accurate registers of the cases of all patients admitted under their care, and of the necessary remedies employed.

“ 25. They shall report the measures necessary to be adopted in places where the contagion subsists, or has appeared.

“ 26. The

“ 26. The committee shall allot the portion of duty to be undertaken by each physician.

“ 27. An apothecary shall be appointed for each house, and shall reside near the house, which he shall attend at least once every day, and at such others times as the physicians shall appoint, and on all cases of emergency.

“ 28. He shall prepare the medicines for the patients, and shall attend at a certain hour for the purpose of delivering those ordered for the out patients.

“ 29. The apothecary shall receive such compensation for his attendance as shall be fixed by the committee.

“ 30. The secretary shall issue summonses for, and attend all meetings of the committee and governors. He shall enter in proper books an account of their proceedings, and shall do such other business as the committee may direct.

“ 31. He shall be intrusted generally with the care of the clothes and other things belonging to the institution.

“ 32. He shall be under the direction of the committee and directors, and shall superintend the execution of the measures enjoined by them

them for cleansing and purifying clothes and apartments.

“ 33. He shall report to the directors the physician’s opinion as to the articles of clothing required, and shall deliver none out of his custody but in consequence of an order by the directors.

“ 34. He shall deliver wine only to those who produce an order signed by the physician, specifying the name of the patient for whom it is ordered, and the exact quantity required.

“ 35. He shall, from time to time, visit the apartments of any person to whom it shall have been found necessary to intrust bed-clothes or apparel, and shall ascertain whether they are applied to the intended purpose ; and, in case of any misuse of them, he shall immediately report the same to the directors.

“ 36. He shall lay before the committee at each meeting an account of the articles of clothing, &c. in his possession, and a list of those lent, or given by order of the directors, and of those returned since the preceding meeting of the committee.

“ 37. Before

“ 37. Before entering upon his office, he shall give security for his good conduct, to such amount as the committee shall determine.

“ 38. The servants of each house shall consist of a matron, who shall superintend the domestic concerns, and of so many ordinary nurses as may be absolutely necessary, together with a porter, and such extra-attendants as from time to time the committee shall think requisite.

“ 39. The porter of each house shall assist in carrying those whom the physician shall have ordered to be removed to the house, and shall be otherwise employed as the committee and directors shall appoint.”

These regulations, as we have formerly observed, are in several particulars much more fitted for a large and opulent metropolis, than for towns of a smaller size. But there is not even a country parish in the kingdom, containing one or more inconsiderable villages, in which such an establishment might not be introduced with great advantage. Where funds cannot be obtained by benefactions, or by annual subscriptions, a portion of the parochial funds collected for the support of the poor,

poor, might, with the greatest propriety, be employed for suppressing contagious fever. If ill-aired houses, in which such a fever appeared, were merely supplied, at the expence of the public, with the proper materials for destroying contagious effluvia, a mixture of common salt with manganese and sulphuric acid, even the most ignorant might soon be instructed in the proper method of employing it, and many useful lives might be saved. If, in addition to these articles, the most indigent inhabitants of the parish could also be supplied, when fevers prevailed in their houses, with the loan of straw-mattresses, of clean blankets, sheets and shirts, which a medical practitioner might judge necessary, advantages almost beyond calculation might result from it. These objects, we think, might easily be obtained even by the poorest parish in the kingdom. And in the opulent parishes of crowded towns, houses of recovery, such as are instituted at London, with wine, medicines, and proper attendance from medical practitioners, might be conjoined to the particulars above mentioned, and would be productive of many important advantages.

It is, we think, in a particular manner, the duty of medical practitioners, not only to aid
such

such institutions, by freely affording them personal service, but also strongly to recommend them to the attention and support of the opulent and benevolent. We are of opinion, that, even in the largest and richest towns, an establishment for each parish would be of more real advantage, than an institution on a very large scale, such as is established in London.

The medical practitioners through the united kingdoms, have of late done much good, by the introduction of vaccine inoculation, and by supporting vaccine institutions. By means of these, there is every reason to hope, that death, occasioned by small-pox, may soon be completely at an end. By establishing in every parish of the kingdom, in imitation of the examples which have now been given, institutions for suppressing contagious fever, death, in consequence of these, would be much less frequent than formerly. If such institutions, by the disinterested exertions of medical practitioners, were now to become general over the British Isles, the commencement of the nineteenth century, would constitute an epoch, truly honourable to the healing art.

IV.

Histoire Médicale de l'Armée d'Orient. Par le Médecin en chef B. Desgenettes. 8vo. Paris. 1802.

THIS work, on the medical history of the French army in Egypt, highly interesting in many points of view, is divided into two parts. The first contains the report addressed by the author to the Military Council of Health, a sort of journal of the principal medical occurrences during this celebrated expedition. The second part consists of particular observations on certain endemics of that country, and on the physical and medical topography of several districts, communicated by some of the other medical officers.

We cannot here follow Dr Desgenettes through all the details of his interesting journal, which form the first part of his work, but shall content ourselves with selecting some of the most important observations, more especially

cially those relating to the pestilential fever of those countries.

Soon after the landing of the army in Egypt, symptoms of this disease were observed in the camps, first at Alexandria, and then at Damietta. As soon as the existence of the plague was ascertained, every necessary precaution to prevent its spreading was taken; quarantines were instituted, and lazarettoes formed; the clothes of the infected were committed to the flames; the opinions of the physicians were regularly published in the orders of the day, by which the prophylactic means recommended were made known to all, and enforced as a law; the cold bath at proper times in the day, and warm clothing during the night, were insisted on.

But Desgenettes had now to accompany an army of 15,000 men, under the command of the General in Chief, into Syria. In this long march, the troops were exposed to the burning heat of the Desert, and to subsequent rains. The plague first made its appearance in this army at Jaffa, as we learn from an official report, dated at the camp before that place, the 15th Ventose, the 7th year of the republic. "Last night," says the writer of this report,

“ I was called to see one Roubiou, a grenadier of the 2d Battalion. I found him without life. The trunk and superior extremities were covered with livid spots; he had a soft tumour under the right axilla.

“ This man had been indisposed for three days; he had lost his appetite, respired with difficulty, felt a sensation of weight in the loins, and a shooting in the right axilla; he had fever on the night of the 13th, and was covered with petechiæ an hour before his death.

“ He had used during his illness an acidulated drink, and had applied an emollient cataplasm to the glandular swelling which had appeared.”

The plague continued from this time to infect the army at Jaffa, Gaza, and at Acre. The usual precautions, as far as they were practicable in an active army, were enforced; the different prophylactic means were recommended; but the nature of the distemper was with care concealed from the soldiers, and the word *plague* was never mentioned. “ Knowing,” says our author, “ the great influence which names have on the minds of men, I never allowed myself to pronounce the word
plague.

plague. I thought it my duty, in this case, to treat the whole army as one patient, to whom it is almost always useless, and often very dangerous, to point out the nature of his disease, when very critical.”

The following advice was inserted in the order of the day.

“The army is advertised, that it is of great advantage to the health, to wash frequently the hands and feet, as well as the face, with cold water, and better still with tepid water, mixed with a little vinegar or brandy.

“When warm, you must always avoid drinking too great a quantity of water; and it is prudent to wash the mouth previously, and to dip the hands in the water.

“The army should be suspicious of, and reject the clothes and linens of the Turks, because those who have worn them are filthy, and often sickly.

“The malignant fevers which begin to appear, and which occasion much alarm, require that the obstructed perspiration be re-established. This is effected by the tepid ablutions above mentioned, by the administration of an emetic, especially when, as most commonly happens, there is a disposition to

vomit, and by supporting afterwards the moisture on the surface, and the strength, by a drink composed of a decoction of coffee and the Peruvian bark, acidulated with lemon juice. Emollient cataplasms must be applied to the buboes; no attempt must be made to resolve them; they are the crisis of the disease. When these tumours are arrived at maturity, they should be opened with the knife. As for the carbuncles, they should be burnt with the lapis infernalis, or with a hot iron."

Directions are afterwards given for burying all carcases, and dead animal matters, found in the neighbourhood of the camp.

The pestilential fever announced itself at Gaza, by a slight rigor, followed by heat and extreme debility; the patient soon after sunk into a state of stupor, and almost total insensibility; buboes appeared on the third day; most commonly they were situated in the parotids; nearly about the same time the skin was covered with petechiæ. The fatal termination took place from the third to the eighth day of the disease. After this last day, great hopes were entertained of recovery.

Bruant, physician to the hospital at Gaza, writes, "Our patients arrive from all points
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of the army. It is seldom that those from the garrison arrive at the hospital before the third day after the attack; and they die on the fourth, fifth and sixth days. The greater part of the sick, to whom an emetic has been administered the first or second day, have been saved." The other remedies employed were Peruvian bark, camphor, and lemonade.

At Jaffa, blisters were found of great service. The physician to this hospital complains of the want of cantharides. "Blisters," says he, "have performed wonders, when applied on the second, the third, and even fourth day, as stimulants and derivatives; they prevent or remove those fatal lethargies, those metastases to the brain, with which two-thirds of the sick are attacked on the first days." "Encouraged by your example, and by your success, I have bled with advantage some young sanguine plethoric patients."

In lieu of cantharides, Desgenettes recommends, from his own experience, to pour a few drops of boiling water on the part intended to be blistered. This, says he, has succeeded with me in a great many cases.

The author distinguishes three degrees of the pestilential fever.

1st degree.—Slight fever, without delirium, buboes: Almost all the sick are speedily and easily cured.

2d degree.—Fever, delirium, and bubo; the delirium abates about the fifth day, and terminates with the fever about the seventh; Many are cured.

3d degree.—Fever, considerable delirium, buboes, carbuncles, or petechiæ, distinct or confluent; remission or death on the third, fifth, or sixth days: Very few cured.

The following observations are worthy of attention.

“ To support the wavering courage of the army, I, in the midst of the hospital, dipt a lancet in the matter of a bubo of a convalescent from the first degree of the disease, and slightly scratched myself in the groin and arm-pit, without taking any other precaution than that of washing myself with soap and water, which were offered me. I had, however, during more than three weeks, two small points of inflammation, corresponding to the

two

two wounds; and they were still very discernible, when, owing to my return to Acre, I bathed in presence of a part of the army in the bay of Cæsarea.

“ This imperfect experiment, of which I have found the necessity of giving some account, because it has made much noise, proves very little for science. It does not invalidate the transmission of contagion, demonstrated by a thousand examples; it only shows, that the conditions necessary to give it activity have not been well determined. I believe I ran more hazard, with a much less useful view; when, invited by the quarter-master of the 75th demi-brigade, an hour before his death, to drink from the same cup, I hesitated not to give him this encouragement.”

In another place, the author observes, “ Many asked, By what means I remained unaffected by the contagion?” “ Yet,” continues he, “ I used but few precautions. As well nourished as circumstances permitted, I made frequent use of spiritous liquors in small doses, and much diluted. I always rode on horseback to the sick-quarters; and how I conducted myself while there, every one saw. On leaving the hospital, I carefully washed
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my hands with water and vinegar, or with soap and water ; and I returned to the camp at a smart trot, which procured me a gentle perspiration : I changed my linen and my clothes, and washed my whole body with warm vinegar and water, before eating.”

We shall conclude our account of the observations to be collected from this work on the plague in Syria by a few particulars, which we shall give without abridgment, in the author’s own words.

“ There is reason to be assured, that, in Syria, permanent exutories, such as issues and fetons ; cutaneous eruptions, as herpes, and the itch ; venereal complaints, recent wounds, or ulcers with profuse suppuration ; were no protection against the epidemic.

“ Women and young people, even children at the breast, more generally resisted the epidemic than the most robust men. A woman of Alface, the wife of a guide, who was nursing her child, performed a journey of more than sixty leagues, behind the carriage of the Commander in Chief, placed almost constantly between two infected persons, without having experienced any thing bad.

“ Crowds

“ Crowds of hungry dogs, like those who devoured Jezabel, hovered continually about our sick quarters ; they were seen throwing themselves with avidity on the poultices which had covered the buboes, eating the mortified flesh, feeding on the pestiferous carcasses, without contracting any disease ; at least they were seldom found dead in the neighbourhood of our establishments.

“ The critical tumours were generally in the groins ; some had them both in the groin and axilla. We have seen so many as four in the same individual.

“ The anthraces have no determined situation. They are often multiplied in the same patient ; and I have seen to the number of three.

“ The repulsion of the buboes, and especially of the parotids, at all stages of the disease, but more particularly at the beginning, was almost always fatal. There were, however, some examples, but very rare, of the contrary.”

From the most exact accounts, the loss sustained by the army in Syria, by the epidemic, was about seven hundred men.

After

After the retreat of the French army from Syria, our author returned to Cairo. The mortality among the troops in Egypt had been very considerable. In five months the number of deaths amounted to 1225, of which a large proportion had occurred at Alexandria from the pestilential fevers.

The hospitals, during the absence of the Commander in Chief, had been badly supplied, and much neglected. His first care was to restore order to these, and enforce the execution of those means of prevention which he had already found so useful.

Other epidemics were at this time also prevalent in Egypt, such as ophthalmia and dysentery. A fever, to which the name of Ephemeral or Catarrhal was indiscriminately given, was very common. The cause of this epidemic was attributed to the increased humidity from the great and sudden rise of the waters of the Nile, and to the practice of refreshing the streets of Cairo by watering.

Those attacked, first complained of their no longer sweating, or even transpiring. This constriction of the cutaneous pores occasioned lassitude, and disagreeable feeling. Every one was convinced of the propriety of the custom
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of the country, which has substituted the question, How do you sweat? for that of, How do you do? This state of the disorder was accompanied with a slight headach, want of appetite, the tongue was rough and white; a disagreeable taste was felt in the mouth. Within three or four days the pulse at first hard and frequent, became softer; the skin, before hot and dry, became relaxed; it was somewhat turgid and red, and a slight eruption was perceived on the face, palms of the hands, and different parts of the body; sometimes the loins were marked, as if the patient had been whipped; at last the belly loosened, and the excretion of sweat reappeared in a more or less sensible manner. Along with this fever, some patients had an eruption over the body of furfuraceous scales, which was attributed to the use of the crude waters of the Nile. Such experienced in the beginning, rigours over the surface of the body, greater heat, more sensible exacerbations at night, the belly was more costive, and sleep more disturbed.

The disease was treated by emetics in the beginning; gentle laxatives, and the free use of diluent drinks, in which a grain or two of
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the antimoniated tartrite of potash were dissolved, seemed all that was necessary to complete the cure.

Some general inductions on the nature of the plague, drawn from the author's observations in Syria and in Egypt, conclude the first part of this work.

“ The plague,” he observes, “ is endemic in the Lower Egypt, and along the coasts of Syria ; since it has reigned there during all ages, and has been observed a hundred times in a hundred different places, which had no sort of communication with each other.

“ The plague generally appears at fixed seasons ; but in the course of this history there are examples of it at all seasons of the year.

“ The south winds, warm and moist air, favour it at least, if they do not alone produce it.

“ Northerly winds, the extremes of heat and cold, occasion the disease to disappear almost entirely.

“ The plague is evidently contagious ; but the laws which regulate the transmission of this contagion are not more exactly known than its specific nature. The bodies of the dead do not appear to transmit it : the animal

mal body during the febrile heat, and still more during the state of febrile moisture, has appeared to communicate it most readily. The contagion has been known to cease in passing from one side of the Nile to the other ; and a simple ditch drawn in the front of a camp has been known to limit its ravages. On these observations is founded the advantageous isolation practised by the Franks, sufficiently related by different travellers.

“ The plague more particularly attacked men exposed to sudden transitions from a hot to a cold atmosphere, and reciprocally, such as bakers, smiths, cooks, &c. Those who were addicted to the excessive use of spirits and of women, were seldom recovered from the plague.

“ Notwithstanding the severity of what I call the third degree of the plague, we have known cures performed even by nature alone ; and I cannot pass over two remarkable examples, although my object is not to offer particular facts in this place.

“ A miner, attacked with the plague during the expedition into Syria, escaped naked, in a violent delirium, from the font Cathieh, and
wandered

wandered during several weeks in the desert ; two buboes which he had, suppurated and cicatrised of themselves ; he subsisted chiefly on a small species of sorrel formerly described.

“ The second case is, that of a man belonging to the artillery, who had two buboes, and an anthrax. In a violent delirium he made his escape from the lazaretto of Boulak, the very day of his entry, and threw himself into the Nile. He was withdrawn about half-an-hour after from the water below Embabéh, by the men of the village, and he afterwards recovered perfectly.”

Upon the whole, from an attentive perusal of this first part, we cannot help acquiescing in the reflection made by the author, that never was more pains bestowed on the preservation of troops ; generals, superior officers, and officers of every rank, even the private soldiers, concurred to this good end. The bravest men, then, Mr Desgenettes infers, are ever the most compassionate and the most generous.

THE second part of this work is prefaced by a circular letter addressed by the Chief Physician Desgenettes, to the ordinary physicians of the army, in which he engages them to collect all possible information relative to the physical and medical topography of the different situations in which they might be placed. The plan of observation proposed, is,

1. To indicate the nature of the soil of the country to be described.

2. The longitude, latitude, and general exposure of the place.

3. The prevailing winds.

4. The principal physical qualities of the water of the Nile, of the wells, and of cisterns; their influence on vegetation, and on the health of man, and domestic animals.

5. The trees, shrubs, and other plants, particularly the culinary and medicinal.

6. The grains which are cultivated; their manner of cultivation; the diseases to which they are liable.

7. To examine with care, and to point out the numerous medicinal substances which the commerce of Asia furnishes to Africa, and particularly to Egypt.

8. Animals of all classes which are particular to Egypt ; the diseases of those domestic animals which are most useful to man,

9. To describe the general characters of the inhabitants ; their food, drinks, clothing, construction of their dwellings, their occupations, customs, and manners ; the most common diseases incident to children, to the men, to the young, and to the married women, and their common method of treatment ; at what epoch the women begin and cease to menstruate ; their fecundity ; the usual term of life.

Agreeably to this plan, the second part of contains observations,

1. On the prevailing ophthalmia, by Brulant, M. D.

2. On the topography of Ménouf, in the Delta, by Carrié.

3. On the diseases, and in particular on the dysentery which prevailed in the army of
Egypt

Egypt in Fructidor of the 7th republican year, by Bruant.

4. On the use of oil in the plague, by Defgenettes.

5. Extract of observations made during a voyage on the west bank of the Nile, from Cairo to Syouth, by Cérésole, physician in ordinary to the army.

6. On the diseases which prevailed in Frimaire, 7th year, made in the Military Hospital of Old Cairo, by Barbés, physician in ordinary to the army.

7. Physical and medical topography of Old Cairo, by Reneti, physician in ordinary to the army.

8. Essay on the physical and medical topography of Damietta, with observations on the diseases which reigned in that place during the first six months of the 7th year, by Savaresi, physician in ordinary to the army.

9. Description and treatment of the ophthalmia of Egypt, by the same physician.

10. Physical and medical topography of Salehhyèh, by the same.

11. Physical and medical topography of Belbeys, by Vautier, physician in ordinary to the army.

12. On the physical and medical topography of Rosetta, by Frank, physician in ordinary to the army.

13. Physical and medical topography of Alexandria, by Salze, physician in ordinary to the army.

14. Meteorologic observations, communicated by Nouet, member of the Institution of Egypt.

15. Observations on the weight of the air, the direction of the winds, and state of the atmosphere, by Coutelle, member of the Commission of Arts.

16. Necrologic tables of Cairo for the 7th, 8th and 9th years, by Desgenettes.

As the ophthalmia is one of the most prevalent diseases of Egypt, we shall here give some account of that endemic from the observations of Drs Bruant and Savaresi.

It is observed by Bruant, that the greater number of those attacked with this disease, came from the advanced posts of the army, and from the camps; that all had been more or less exposed to the combined action of great heat,

heat, and great light, which he regards as the principal cause, though he admits also, with Prosper Alpinus, the agency of a hot nitrous dust, or of vapours floating in the atmosphere. The ophthalmia reigns chiefly during the three months preceding the overflowing of the Nile.

The disease attacks suddenly; a severe pain is felt in the eye, accompanied by a flux of tears; the tunica conjunctiva is inflamed and swelled; the eyelids also swell; the eye itself is covered with a puriform matter; there is violent pain of the head, often confined to the superciliary arch; the pulse is quick. The duration of the disease is from eight to thirty days or more. It terminates in loss of vision, or in ulcers of the cornea.

The chief prophylactic means is frequent lotion of the eyes with cold water; which is also a useful remedy in the beginning of the disease, when the symptoms are purely local. Bloodletting was often improper, on account of the bilious disposition with which the disease was complicated, and because the soldiers were commonly much reduced by the fatigues of military service. All kinds of local irritation were avoided. Emollients were sparingly

ly used, as they seemed to relax too much, and retard the cure. Blisters to the neck, and especially behind the ears, had the best effects. When the inflammation began to give way, then discutient collyria were serviceable. The ophthalmia seeming sometimes connected with the state of the *primæ viæ*, was often much relieved by evacuants, especially by emetics and laxatives.

We pass now from the observations of Bruant, to the fuller account of this disease by Savaresi.

The attacks of this disease are sudden, and its progress rapid. If not cured within seven or eight days, it runs on for one or two months. The left eye is more frequently affected than the right. A diarrhœa, dysentery, or tertian fever, sometimes supervene, and efface the disease. After having resisted the most active remedies, it sometimes terminates in amaurosis, obscured vision, or total loss of the eye: Savaresi thinks the ophthalmia endemic in Egypt. My reasons, says he, are these :

“ The countries of Egypt are immense plains; the light is very vivid; their soil is dry, friable and hot, particularly in summer; it

it is argillaceous, and calcareous, and contains nitrate of potash already formed, natrum, and the muriate of soda ; the days are hot and serene, and the nights cold, humid and cloudy. It is evident, that these physical circumstances combined, ought to injure the eyes of animals, on which they act as stimulants, which cause an influx of humours, and destroy the equilibrium of the natural tone of the part, by increasing or diminishing it ; which gives rise to a sthenic or asthenic ophthalmia. In short, what particularly strikes the traveller in Egypt, is the prodigious number of blind persons, or persons affected with diseases of the eyes. The ophthalmia attacks indiscriminately the rich and the poor, the inhabitants of the towns and those of the country. History informs us, that several of the Pharaohs died blind. Animals are no more exempted from diseases of the eyes than men. Most of the dogs are blind of one or both eyes ; a great many asses, horses, oxen and camels, have their eyes marked, or slightly affected. I conclude, from the reunion of all these facts, easily verified, that the ophthalmia is endemic in the countries watered by the Nile, and rages in the hot season ; that is,

from the beginning of summer to the end of autumn."

He denies that rice, so much used by the Egyptians, has any share in causing this disease.

Another cause to which the ophthalmia of Egypt has been attributed, is the nitrous dust or vapour arising from the soil. But this cause, too, is rejected by Savaresi. He thinks the alumine, and the chalk, which form so large a part of the soil of Egypt, have some effect in producing inflammations of the eyes. Experiment, he observes, proves this. He reduced those earths to powder, and introduced them into the eyes of several dogs, who became blind the day after. He tried nitrate of potash on other dogs, without having observed any bad effects from it. Two soldiers amused themselves by throwing lime in each others faces and eyes; they were both attacked with ophthalmia. But we are not inclined to consider those facts to be so conclusive as the author imagines.

The ophthalmia is sthenic or asthenic, that is, proceeds from an excess or defect of tone. There is but one species belonging to the former genus, which Savaresi calls *Inflammation*

tion of the ball of the eye : there are two species belonging to the latter genus, which are, *Inflammation of the tarfi*, and *Inflammation of the conjunctiva*. Each of these three species is characterized by particular symptoms.

1st Species.—Inflammation of the Globes of the Eyes.

“ The eyelids, red and inflamed, are opened with great difficulty ; an insupportable pain of the eye-ball shooting within the head ; the small vessels of the conjunctiva are so obstructed with blood, that they form a membranous pellicle, which covers the eye. The sight is obscured, clouded, sometimes lost ; the light cannot be supported ; a purulent secretion supplies the place of the tears ; and the patient often complains of feeling small stones pricking his eyes, or of a piece of cloth which covers them.”

2d Species.—Inflammation of the Tarfi.

“ Swelling of the upper eyelids, which are pale and relaxed ; difficulty of opening them ; the light produces a disagreeable sensation ; the tarsus is painful and inflamed ; flowing of tears.”

3d Species.—Inflammation of the Conjunctiva.

“ The light is insupportable ; the conjunctiva inflamed, with severe pain, obstructed vision, and flowing of tears.”



Treatment of Ophthalmia.

“ I began the treatment of the three species of Ophthalmia,” Mr Savarese observes, “ by purging the sick with an ounce of the sulphate of magnesia, and then administered the remedies according to the indications.”

The sthenic ophthalmia demands the attention of an able and observing physician, because the cure depends on the activity of the first employed remedies. In this case, blisters applied to the nape of the neck, and a local bloodletting in the temporals, or jugulars, are very useful, and must not be neglected. An hour after the bloodletting, a remarkable change is perceived in the disease ; the spasm and severe pain of the head diminish, or go off altogether the day after. Sometimes this effect is not so sudden, and the disease continues, accompanied with a slight febrile commotion ; to stop which, bleeding and purgatives

tives are necessary. A cooling regimen is prescribed ; barley-water, with the acidulous tartrate of potass, for drink ; and an anodyne resolvent collyrium, prepared with opium, dissolved in spirit of wine, and decoction of saffron. This treatment must be continued, he tells us, till the swelling lessens, and till the eyelids are turned outwards, with some increase of size ; a constant occurrence from the vessels being weakened and relaxed.

When this effect has taken place, he prescribed a saponaceous collyrium, which is a solution of soap in spirit of wine. The use of this restores the natural position to the eyelids, and they open freely, so as to allow the transparent cornea to be seen slightly ulcerated, or covered with specks. In the first of these two cases, he employed with success cold water and vinegar ; and in the second, a dry application, composed of sugar-candy, sulphate of alumine, and nitrate of potass, which destroys the specks in a few days.

By employing the internal and topical means above mentioned, according to Mr Savaresi, we easily effect a cure in the space of one or two months. If this time has elapsed,

fed, we must despair of restoring the use of the affected parts.

As to the treatment of the second species of ophthalmia, he made use of a single topical collyrium, a solution of sulphate of zinc in water, mixed with vinegar and with brandy. This remedy has been very useful, and cured perfectly the disease in twenty days or a month.

Another collyrium made with muriate of soda, dissolved in water with vinegar, has sufficed for the cure of the third species of ophthalmic inflammation, which is the most simple, though as tenacious as the preceding. He has known this disorder cured on the coast of Italy with simple baths of sea-water.

The application of emollient and resolvent cataplasms, are praised by many in the three species of ophthalmia; but experience teaches the contrary, and shews that these means relax the parts, increase pain, and produce other bad effects.

Such is the treatment Savaresi used in the military hospitals; and of near a thousand patients which have come under his care, he has only to regret the misfortunes of

two who became blind, and of two others who lost each one eye.

The Dyfentery is another disease which appears to have been very common in Egypt; we shall therefore give an account of the observations of Bruant on this epidemic.

The month in which the dyfentery appeared was remarkable for the excessive heat of the days, and cold of the nights. Those chiefly who were exposed to the cold humid night air were attacked with the disease. The soldiers who remained in quarters suffered little by it.

The patients, when they arrived at the hospital, were more or less reduced and weak; the skin dry; the pulse commonly small and feeble; the respiration hurried; the appetite gone; the mouth and tongue constantly foul. The duration of the disease was uncertain. When application was made in time, the cure was often speedily effected. A supervening ophthalmia always relieved the dysenteric affection. These diseases seemed mutually to pass into and relieve each other. A flow of urine seemed sometimes to relieve the disease by crisis. Relapses were frequent.

The

The prognosis was generally favourable. Sometimes, however, a series of alarming symptoms took place, and cut off the patient. Great debility and emaciation; a dry and rough skin; small hard pulse; tongue dry, hard and cracked; inextinguishable thirst; heat of the bowels; violent tenesmus; liquid frothy stools; and aphthæ; were amongst the unfavourable symptoms.

The cure was begun by emetics. These had commonly the best effects even when employed so late as the eighteenth and twentieth days of the disease. When the effects of the first emetic were incomplete, a second was given. The next day the patient was purged. By this time he was commonly much relieved, and the symptoms considerably abated. Diluents were alone used for the next two days. A laxative, composed of rhubarb and acidulous tartrate of potash, or of sulphate of magnesia, was then prescribed, and being two or three times repeated, often terminated the disease. Ipecahuana combined with rhubarb was also serviceable.

When, in spite of this simple treatment, the dysenteric symptoms continued, it was necessary
sary

fary to have recourse to opiates. These were chiefly useful in old dysenteries ; at the same time, the bowels were kept free by the use of gentle eccoprotics.

In certain cases blisters did good, especially when the disease was attended with general, bilious, or putrid fever. The blisters were applied to the legs. Under the same circumstances, the bark was given in small, often repeated doses. The method of treatment thus varied with the character and symptoms of the complaint. Some cases extremely obstinate were relieved by a combination of ipecacuana and opium. In the chronic state of the disease, blistering the legs is said to have had good effects.

We should now conclude our review of this work, by giving some account of the use of friction with oil in the plague ; but we find nothing original on that head. It does not appear that the French physicians had themselves any experience of this practice ; and the notice given of it by the author, is chiefly taken from the observations of Mr Baldwin, British Consul at Alexandria, and of Father Louis de Pavie, director of the hospital at Smyrna,

Smyrna, who employed this method at the request of Mr Baldwin, and declares, that of all the remedies he had known employed in the plague, this is the best.

Of the practice recommended by Mr Baldwin, our readers will find a pretty full account in a former volume of these Annals, (Vol. II. Lustrum 1. published in 1797). We shall only again repeat, that one of the most important observations made by Mr Baldwin was, That, among upwards of a million of inhabitants carried off by the plague in Upper and Lower Egypt, during the space of four years, he could not discover a single oilman, or dealer in oil.

V.

Traité Pratique des Maladies Graves, qui regnent dans les contrées situées sous la zone torride, et dans le midi de l'Europe. Par Pierre Campet, Médecin, Ancien Chirurgien, &c. en chef des Hôpitaux Militaires à Cayenne. 8vo. Paris, 1802.

IN this work, we have a number of observations on some of the most prevailing diseases of hot climates, chiefly from the author's own experience, during a long residence at Cayenne, in French Guiana. Cases are commonly added after each observation, illustrating the practice recommended in the text.

The first chapter, on Universal Spasm, or Permanent Tonic Convulsion, contains some account of the various modifications of tetanus. The most frequent causes of these affections, are wounds, contusions, luxations, amputations, or similar accidents; miscar-

riages, hæmorrhagies; sleeping in cold and moist situations. Fishermen are the most exposed to these causes, and the most common subjects of the disease.

In treating of the prevention and cure of tetanus, the author insists much on scarifying the wounded part, and on the means of inducing and supporting suppuration. In pricked wounds of the plantar aponeurosis, a very common accident to which the barefooted negroes are exposed, and often the cause of tetanus, he advises, as the most important of all the means, to slit open the skin by a crucial incision to the extent of an inch, the four angles of which are to be entirely removed; the foot is then plunged into an emollient pediluvium for an hour; after which, a few drops of boiling oil are poured on the wound; and the parts are afterwards to be frequently fomented with oil.

If the patient be strong and sanguine, he must be let blood. Cathartics of jalap and gamboge are next employed; and after their operation, a few drops of laudanum. Cold and moisture are to be carefully avoided.

Of

Of the Universal Spasm of Brazil.—This is the most perfect tetanus; the whole body becomes rigid as a log of wood. The causes are wounds and exposure to cold. Bleeding, drastics, sudorifics, and friction with oil, are the remedies recommended.

Of the Spasm of Batavia.—Universal tetanus.—Copious blood-letting should precede all other remedies; frictions with oil of cloves, or oil of turpentine, are to be employed. Dry cupping is advised, and the use of alexipharmics, amongst which we find mention made of bezoar, and the horns of the rhinoceros.

Of the Tetanus of New-born Children.—This disease, so fatal to new-born infants, is very common at Cayenne; at least one-tenth of the negro children born there, fall victims to that affection.

There are three classes of inhabitants at Cayenne; the whites, the copper-coloured, and the blacks. It has been observed, from the first existence of the colony, that the children of the Indians are never attacked with this disease; those born of white parents very seldom; and that it is chiefly the

children of the negro women who are liable to it.

The cause of the trismus nascentium, and of this different susceptibility observed amongst the different classes of children, is, in the opinion of the author, to be traced to the ligature of the umbilical cord.

The negroes tie the cord firmly, and are inattentive to the future care of it ; the ligature comes away prematurely, and the cord itself often ulcerates : these children are the most common subjects of trismus. The whites suffer less, because they pay more attention to the ligature, to dressing, cleanliness, &c. ; ulcerations of the cord and trismus, therefore, are less frequently observed in their children. They are also better lodged, better clothed, and better nourished, than the negroes. The Indians never tie the cord, and are never affected with the disease.

The author is hence led to give some directions for the proper ligature of the cord, and preventing ulceration, which usually precedes the attacks of trismus. When the disease has taken place, frictions with oil, and the use of laudanum, are said to be the most effectual means of cure.

of

Of Fevers.—We find nothing new on this head. The author insists much on the use of purgatives in the malignant and remittent fevers of Cayenne ; and this practice seems indeed confirmed by the very general experience of practitioners in hot climates.

We also pass over the author's observations on some other diseases, as peripneumonia, pleuritis, and other inflammatory complaints.

In the 12th chapter, we have an account of a human fetus formed in one of the Fallopian tubes. The author mentions several well-known examples of this, from Vesalius, the Philosophical Transactions, and the Memoirs of the Academy of Sciences. The case which occurred to the author, we shall give in his own words.

“ A woman, whose name was Jongant, the wife of the King's gardener at Cayenne, three months pregnant of her sixth child, of a sanguine robust constitution, about thirty years of age, was, on the 1st October 1771, suddenly attacked with symptoms of violent colic, accompanied by vomiting, cold sweats, faintings, suppression of urine and fæces.

“ She had experienced no other previous indisposition than a dull pain, which she had felt for five or six weeks, on the right side of the hypogastric region, stretching towards the haunch of the same side, but which, however, did not prevent her from going about.

“ About nine in the evening, I was asked to accompany the King’s physician, who was sent for to see this woman.

“ We found her covered with a cold sweat, accompanied with syncope and oppression. The pulse was slow, tolerably full and regular ; which not corresponding with the other symptoms, threw some obscurity on the cause of the disease. This state seemed to indicate some obstruction in the principal viscera, which opposing the motion of the blood, produced all the phenomena mentioned above. These considerations induced us to let blood, which had not yet been done. I opened a vein in the arm ; but no sooner did the blood begin to flow, than the fainting increased, and forced me to stop the vessel. The patient expired the next instant.

“ The body was opened the next morning. I found the abdomen filled with blood, both fluid and coagulated. This being removed,

ved, I found a fetus with some portion of its membranes. I examined the matrix and its appendages. I immediately perceived a rupture of the superior part of the right tube, coagula of blood in the bottom of the rupture, and a considerable dilatation of this part of the tube, which evidently shewed that the fetus had been formed there.

“ Having removed the matrix from its place, we observed on its external lateral part, next the affected tube, the marks of inflammation, which extended from this tube to the neck of the womb. The orifice of the tube, however, at its insertion in the uterus, was not obstructed. A probe was passed from it through the ruptured part of the tube.”

The following chapter contains a number of miscellaneous observations; amongst others, an account of some cutaneous diseases, the most dreadful of which is that called by the author *Mal Rouge*, which appears to us to be the same disease described by Sauvages under the name of *Elephantiasis Indica*.

This disease, the mal rouge, the author informs us, is endemic in Nigritia, and introduced to the New World by the importation

of slaves, and is there contagious. He thinks it the same disease as the leprosy of the Jews and Arabians.

The disease first declares itself by the appearance of red copper-coloured spots on the face, breast, back, or extremities. These, so far from being attended with either pain, or itching, are insensible ; and in the progress of the disease this insensibility becomes so great, that a pin may be passed through the parts without being felt. The skin of the face now becomes thick, rugose and wrinkled. The ears are singularly enlarged, thickened, and deformed by numerous little tumours. The eyes are sunk, red, and inflamed. The cartilages of the nose give way ; the voice becomes consequently nasal and hoarse ; at last the joints of the fingers and toes become ulcerated, the ligaments are consumed, and the phalanges drop off one after another, then the feet and hands themselves. This dreadful disease is at once contagious and incurable.

The 14th chapter treats of Sudden Death, Apoplexy, &c.

The

The 15th chapter, of Fluor Albus.

The remainder of the work contains an account of the practice of Hippocrates, and of the system of Asclapiades, which is extended through more than an hundred pages, and in which we find not only many remarks on the practice of Hippocrates, but also a detailed account of all the different editions of his works.

Dr Campet concludes the treatise now before us, by giving several formulæ of medicines which he has been in the common practice of employing with advantage. But here we find nothing recommended which has not been in frequent use among other practitioners. We shall, however, present our readers with a few of these formulæ in his own words.

“ Digestif simple.

“ Prenez une once de terebenthine ; un jaune d’œuf ; broyez les ensemble, en y ajoutant un peu d’eau-de-vie.”

“ Liniment pour la brûlure.

“ Prenez huile de noix saturée d’eau ; de chaux, la quantité dont vous aurez besoin ; mettez-

mettez-en sur du papier gris, et l'appliquez dessus."

"Bol anti-asthmaticque.

"Prenez blanc de baleine, un gros; fleur de soufre, un scrupule; fleur de benjoin, douze grains; syrop de diacode, suffisante quantité pour en former une masse, dont on fait quatre bols. On en prends un le soir, avant de se mettre au lit."

"Mixture Cordiale.

"Prenez quatre onces de bon vin vieux; sucre, un once; jus de citron, une cuillerée; melez. On en donne une cuillerée, de tems en tems, dans les foibleesses, les défaillances, et après de grandes évacuations."

After some other formulæ, particularly of purgatives, in which, however, there is nothing uncommon, he concludes his work with some observations on the preparation and use of Hoffman's Anodyne Liquor, and on vitriolic ether, which he thinks is, without contradiction, the most energetic and most useful instrument either of chemistry or pharmacy.

VI.

Principes de Physiologie ; ou Introduction à la Science expérimentale, philosophique, et médicale de l'Homme vivant. Par Charles-Louis Dumas, de l'Institute National de France, Professeur d'Anatomie et de Physiologie, Chargé des Cours de Bibliographie Médicale, et de Clinique Interne, à l'école de Médecine de Montpellier, Membre de plusieurs Sociétés Savantes et Littéraires. Tome I et 2. 8vo. Paris. 1800.

IN a preliminary discourse, the author traces the outlines of the inductive method, and considers the application of its rules to anatomical and physiological science. And to this method he professes to adhere in those speculations on which he is here about to enter.

The first part of this work, consisting of six chapters, treats of general views on anatomy, physiology,

physiology, and on all the branches of natural philosophy, which apply to organized and living beings.

The 1st chapter contains “a short history of anatomy and physiology from the origin of these sciences to the present time.”

In the 2d, he treats, “of anatomical science, considered in relation to mathematics, natural history, and chemistry.”

And, in the 3d, “of physiological science, considered in its relation with mathematics, general physics, chemistry, anatomy, natural history,” &c.

The general consideration of the relations, and of the use of these sciences in the prosecution of physiology, and of the limits within which they may be safely applied, is a subject of undoubted importance.

The sciences are useful auxiliaries in our physiological speculations ; but in considering the phenomena of life, it should always be remembered that this science has its own laws ; that physiology has its own proper genius ;
and

and that although it may sometimes borrow from the other sciences, there is an order of truths proper to itself, which is nowhere to be sought for but in the phenomena of the living economy.

The mathematics may be usefully applied in those details of physiology which suppose calculable variations of substances, motions, or forces; as in estimating the proportion of the ingesta and egesta; of the aliment to the transpiration; the quantity of air consumed in respiration. Mathematics are also applicable to the phenomena of light and of sound. But after reviewing the different applications which have been made of mathematics to physiology, he concludes, “ That it can only be applied to certain functions, in order to discover the quantities and proportions of external agents, of sensible motions, and of physical forces.”

The object of general physics, is to class and examine the phenomena and the laws of matter and of motion. The general qualities of matter, however, can never give us any ideas of the living forces of vegetables, or of animals; nor can these be explained by the forces of impulsion and attraction.

But

But there are some functions, whose object is the free communication of the living animal with external things, and which relate as much to those things as to the animal itself. The laws which regulate these functions should be studied in those of the external objects on the one hand, and in the phenomena of vitality on the other. Such functions require, therefore, the united labours of the physiologist, and the natural philosopher. Thus, the perception of colours, and the phenomena of vision, result from an action proper to the organ of sight, and from the qualities of luminous, and of coloured bodies.

Upon the whole, the author concludes, " That the greater the relation any function has to external objects, the more is it within the sphere of mechanics and natural philosophy."

Chemistry has laid open to us the nature and composition of animal solids and fluids, and discovered to us the elementary principles of our organs, &c. But the laws of affinity can never explain the complicated phenomena of animal life. From the review taken of the uses and application of this science to physiology, he infers, " That the more a function

function relates to the phenomena of composition, the more it comes within the province of chemistry."

Anatomy displays the structure and organization of the animal machine ; it lays before us the instruments of nature, but leaves us ignorant of the forces by which they are moved.

Natural history may reflect much light on the science of physiology. It presents to our view the details and plans of nature in her diversified productions, and offers new facts, by the comparison and analysis of which we are enabled to explain many otherwise intricate and difficult phenomena.

In the 4th chapter, he considers " the difference between inanimate and living bodies ; the characters by which they may be distinguished ; the living principle, its effects, causes, and duration."

There are two modes of existence of matter, a state of motion, and of life ; a state of inertia, and of death. In the former, the natural elements of matter are associated with simple or compounded active principles, obedient to particular laws. In the latter, these
active

active principles are not found, and its powers are only referrible to the common attributes of matter.

The active powers of animated nature ; their modes of aggregation, and of combination ; their functions ; their limited duration, and death ; and, above all, their powers of *assimilation*, and of *reproduction*, in the opinion of the author, shew the great difference between these and inanimate matter.

Chap. 5. treats “ of Life considered in the different productions of nature.”

The author here reviews the phenomena of life in the different orders of animated nature, from the least to the most perfect, from the most simple to the most complicated.

In the 6th chapter, he considers “ the general, or particular forces and faculties of nature, whether dead or living, and the import of these words.”

If we consider the uninterrupted order in which the most constant phenomena succeed each other, we soon perceive, that from one effect to another, we remount to some more general effects, on which the particular ones depend.

depend. These general effects, are to us the true laws which regulate all the facts of the same kind. These laws, these means, which observation and experience have discovered, may receive the indefinite names of Principles, powers, forces, faculties, &c.

In every science, there are a number more or less considerable of such principles, which ought not to be multiplied beyond the effects really dissimilar which demonstrate them, nor ought they to be separated from these effects by attributing to them a positive and distinct existence.

The principles or faculties of inanimate matter are impulsion, the attractions of gravitation, of aggregation, and of combination, and the vis inertię.

The principles of life obey more complicated laws. They cannot be deduced from the principles of natural philosophy, of mechanics, or of chemistry; neither the forces of impulsion, of attraction, nor of affinity, can explain the phenomena of vitality.

The faculties and forces of living beings, are assimilation, irritability, sensibility, and a power of resistance.

The living body is not influenced by external agents, like inanimate matter. There is a faculty inseparable from life, which resists those changes with which the vital principle is threatened. It maintains living bodies in a fixed and permanent state, and is to them what the *vis inertiae* is to dead matter; but with this difference, that the living force of resistance is an active effort, increasing and diminishing in proportion to the obstacles, whilst physical inertia is inactive, preserving bodies indifferently in a state of motion or of rest.

It is this force of vital resistance which prevents the corruption and putrefaction of living beings. But it is especially in the action of the solid organs that the force of resistance manifests its effects. During life, the organs can sustain shocks without injury, which after death would certainly destroy them.

The muscles support and raise weights, which would tear them asunder, if they resisted only by their physical force. This force of resistance bears no proportion to the cohesive force of the parts. The tendons and bones are frequently broken by the violent contraction

contraction of the muscles, although the physical strength of the former, is greater than that of muscles. The force of resistance is not, like the *vis inertiae*, proportionate to the quantity of matter, but to the quantity of vital power only. The bones and the tendons have less vital power than the muscles, and therefore less resistance than the muscles.

The Second Part of this work contains fundamental Principles on the Physical Constitution, and particular Economy of Living Man.

In the first two chapters of this second part, the author gives a general view of the physical history of man ; the formation, structure, and varieties of his organs ; the modifications produced by age, sex, habit, and temperament.

In the 3d chapter, which is the last of the first volume, he considers the relations and influence of external objects on the body ; the effects of heat, cold and moisture, of climate, and the seasons ; of air, oxygenous and azo-

tic gases; of motion, light, electricity; food, &c.

The 4th, which begins the second volume, treats of the organic structure of the human body. All the varieties of structure observed, are reduced to four; the cellular or spongy; the muscular, or fibrous; the mixed, or parenchymatous; the laminated, or bony.

The cellular structure, though the least organized, forms by far the greatest part of the system. It is composed of cells, which in some places are filled with fat; in others, with serum, lymph, &c. It is every where permeable, as is proved by experiment, and by the phenomena of emphysema, and of dropsy. The substance of the cellular structure seems composed of tortuous cylindrical canals. Its matter is chiefly gelatinous. It forms the skin, membranes, fills every interstice of the body, unites, and envelops every fibre of the muscles, vessels, nerves, &c.

An assemblage of parallel fibres, more or less solid, constitutes the muscular or fibrous texture. They are solid cylinders, differing somewhat from each other in the muscle, in the tendon, and in the nerve. Gluten is the fundamental substance of the fibre.

The

The parenchymatous texture is a compound of the cellular and fibrous, forming the viscera, glands, &c.

The chemical constitution of the fluids and solids of the human body, is considered in the next two chapters. After an accurate statement of the discoveries of modern chemistry, the author very justly concludes by observing, "That, in the eye of the physiologist, the solids are not simple material aggregates, composed of mucous, saline, and earthy matters; they are animated masses, endowed with sentient and moving forces, including in themselves the principle of their activity, susceptible of irritation, of sensation, of resistance, and of spontaneous motion. These properties, and these forces, inherent in the very nature of the solid organs, attached to their own life, can only be discovered by observation, and by the history of the phenomena which they manifest both in the healthy and in the diseased state. Every theory, every hypothesis, originating in speculations foreign to these facts, is good for nothing but to mislead us."

In the seventh and last chapter of this part, he reviews the classifications of the functions

of the living system, and, objecting to the methods hitherto pursued in courses of physiology, he proposes the plan which he has himself adopted, as the most natural and most convenient.

The common object of all the functions is to preserve the animal body in its natural state of integrity and of life.

If we examine the means by which nature operates this preservation, we shall be satisfied that they may be reduced to four general effects.

1. Establishing the relations between each animal and the external surrounding objects.
2. Maintaining the solid and fluid organs of the body in their natural state of cohesion, consistence, expansion, temperature.
3. Preserving the qualities and composition of the substance of the body.
4. Regulating all the physical and moral relations which unite individuals of the same or similar species.

On these four general effects is founded the methodical classification of the phenomena

na.

na of the animal economy adopted by the author.

All the phenomena arising from the relations of the animal with external objects, compose the first class. This comprehends the faculties of sensation and of motion, which are treated of in the Third Part, divided into two sections.

The first considers the action of external objects on man, whence result the phenomena of sensation.

In the two first chapters, he enters on the consideration of the more general facts of sensation; the varieties and degrees of sensibility; and the disputes which have taken place respecting the sensibility of some parts. This dispute, so warmly carried on by Haller and his antagonists, seems now pretty well determined. The author maintains the universality of sensation in the living body. The sensitive principle diffused over the whole system, has its unity maintained by the brain and nerves. Sensibility is not, however, exclusively the property of the nerves. The sensibility of the whole, and of different parts, is increased and diminished according to laws quite unknown: hence, to different experimenters, the mem-

branes, tendons and bones, have appeared at one time insensible, at other times highly sensible.

In the third and fourth chapters, we have an anatomical description of the brain and its productions, and an account of the structure and composition of these parts, collected chiefly from the observations of Dr Monro, Fontana, and Reil.

It is probable, the author concludes from the observations of Fontana and of Reil, that the primitive nervous cylinder may be decomposed into two substances, the one external, of a cellular nature ; the other internal, having all the qualities of the medullary substance. Reil found that the mineral acids dissolve the cellular substance, and that the alkalies attack the medullary part of the nerves. Fontana has shewn, that the medulla of the brain is not a simple mass of arterial and venal vessels, nor composed of globules, or spherical corpuscles, but that it is a particular organized substance, composed of irregular transparent cylinders, convoluted in the manner of intestines.

The quantity and proportion of brain and nerves, in different classes of animals, are next considered. In viewing these, with regard to
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the degrees of intelligence of different animals, two anatomical facts are, he thinks, ascertained, the one by Sömmering, the other by Cuvier.

The former is of opinion, that the faculties of the mind may be measured by the relative mass of the brain, compared not to the volume of the whole body, but to the other parts of the nervous system. Thus, the more considerable this viscus is, compared to the smallness and tenuity of the nerves, the greater and more perfect, according to him, are the powers of intelligence. The volume, however, of the human brain, surpasses that of every other animal, when compared to the size of the nerves which are produced from it.

Cuvier, again, thinks he has ascertained, that the degrees of intelligence are directly proportional to the size of the corpora striata.

Man has this part thicker and more extended than any other animal, and in proportion as we descend from man, it is observed to become less and less.

The power of the brain, its motions, forces, sensibility and functions, are treated of in the fifth chapter.

The brain, as a centre, unites the organs of sense and of motion, and disposes them to receive

ceive impressions, and to perform their functions.

Observations and experiment prove, that the destruction or compression of the brain destroys or suspends both sense and motion. When one hemisphere only is compressed, the opposite side of the body is affected. A slight compression of the cerebrum has no effect; a stronger compression is followed by pain and convulsions. But the slightest compression of the cerebellum produces apoplexy, and of the medulla oblongata, convulsions. Yet the total destruction of all these parts does not produce immediate death. Convulsions more certainly follow lesions of the spinal marrow than of the brain or cerebellum. These last have been cut and tortured in experiments without occasioning convulsions; but the moment the scalpel reaches the medulla oblongata, convulsions take place. When one side only of the medulla oblongata is injured, convulsions are excited in the corresponding side, and paralysis in the opposite.

The texture of the brain is found more firm than natural in maniacs, and softer and laxer in idiots.

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The motions of the brain are communicated to it by respiration, and by the pulsation of the arteries. But the author, although he rejects the motions attributed to the membranes of the brain by Baglivi, is disposed to allow to the brain itself some obscure motions. He founds this belief on some supposed contraction of the brain observed after external injuries.

The connection which subsists between the brain and the organs of the thorax, abdomen and pelvis, the mutual reaction which takes place amongst these, is here fully considered.

The nature and use of the nerves, and laws of sympathy, next engage the author's attention; and having examined the different hypotheses which have been proposed to explain the action of the nerves, he proceeds in the remaining chapters of this volume to treat of the different senses in succession.

Of his observations, however, on the senses of Touching, Tasting, Smelling, Seeing and Hearing, we could not, without a much longer analysis than the nature of our work will permit, convey any proper idea to our readers. We may only remark, that while they contain many observations which have formerly

merly been made by others, they also exhibit many new and interesting facts and doctrines.

This second volume is concluded with a chapter, to which Mr Dumas has prefixed the following title : “ *Idée d’une Physiologie Comparative des animaux les plus remarquables, par la différence de leur sensibilité et de sens ; coup-d’œil rapide sur les sens internes ; vœux pour un idéologie comparée.*”

On this last important subject he concludes with observing : It would be a superb enterprise, and worthy of the naturalist metaphysician, to study the development of the intellectual faculties in the universality of sensible beings ; to observe with care their rise, their progress, their association, their mixture ; to follow the series and application of knowledge from man, who can elevate himself to vast conceptions of genius, to plants, in whom to vegetate, to live, to grow, and to reproduce themselves, are the labours to which the maximum of their faculties is confined. We might then bring together the different modes of intelligence among animals, as the anatomist does the different kinds of structure, or the physiologist the different classes of functions, and in multiplying the facts of this comparative

comparative ideology, we might at length attain the object of laying the foundation of a science at once new and luminous."

The order of our ideas, he observes, may be sometimes deranged, misapplied or disturbed, by constitution, and by disease. From them arise erroneous judgment, treacherous memory, extravagant imagination, absolute or partial loss of faculties, and incapacity of thought. These accidents lead to all sorts of delirium, of folly, of idiotism, and of stupidity, from which no one is certain of being able to preserve himself. This indeed is so natural, and so common, that it is inconceivable how mankind can attach so great an importance to mental qualities. "O man," he exclaims, "whose genius astonishes the universe, before whom crowds of admirers prostrate themselves, when blood too thick is stopt in thy brain, when acrid humours irritate its fibres, when external bodies compress them, the chain of your ideas will be instantly broken, you will tie together sensations which have no connection, you will no longer be yourself, and you will become the laughing-stock of those very people who, but the evening before, offered incense to your statue."

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We cannot conclude the summary view which we have given of these volumes, without recommending an attentive perusal of them at full length to the philosophical physician ; and although there are now not many intelligent medical practitioners who will not with ease understand them in the original French, yet we hope soon to see them in an English dress, as a valuable acquisition to British medical literature.

We expect also with impatience the future volumes of this work, from a careful perusal of which, we have no doubt, that we shall derive both pleasure and instruction.

VII.

A Treatise on the Morbid Affections of the Knee-Joint. By James Russell, F. R. S. E. Fellow of the Royal College of Surgeons, and one of the Surgeons of the Royal Infirmary, Edinburgh. 8vo. Edinburgh, 1802.

THE learned author of this work, in an advertisement, premises, that he does not include an account of those injuries of the knee-joint which depend upon the fracture or dislocation of the bones, nor of those morbid affections which arise from aneurisms of the popliteal artery.

In his first chapter, he treats of “superficial injuries,” which, he remarks, require the utmost care and attention, under whatever form the particular attack may appear. He specifies, as an example, a case of burn, by which the texture of the skin, to the extent of five or six inches in diameter, was completely

pletely destroyed; and after a very tedious process, during which, to use the author's words, "the cure became stationary," hectic fever supervened, and carried off the patient. Cases where a large portion of the skin is separated from the subjacent parts, by the violence of a wound or contusion, often prove, according to his experience, equally unfortunate. But sometimes, he remarks, nature makes wonderful though unsuccessful exertions to repair the injuries sustained.

We regret extremely, that Mr Russell has not recited, in this chapter, the marks by which a young practitioner may judge of the probable event of superficial injuries. Although every superficial injury claims attention, yet they are certainly by no means dangerous in every instance.

The 2d chapter relates to injuries upon the burfæ, below the patella. The object of this chapter is to point out the marks of discrimination between a preternatural accumulation of fluid within the bursa, in consequence of a blow, and the maturation of an abscess. The phlegmon, he observes, is more prominent at the centre, and the apparent thinness of the skin

skin is more circumscribed within the limits of a particular spot ; the desquamation of the cuticle is a more common occurrence at the surface, and the base is more regular in its figure, and firm in its consistence, and bears a larger proportion to the soft part in the centre. Besides, in a suppurating abscess, the pain continues to increase until the skin give way ; whereas, in a collection in the bursa, there is no instance of severe pain. He concludes with a caution against hasty discussion in such cases.

Tumours containing blood form the subject of the third Chapter, and prove, according to the author's experience, perplexing to the practitioner, and troublesome to the patient. He mentions no particular marks by which they may be distinguished from lymphatic effusions, which they very nearly resemble ; and with respect to the cure, he says, that nothing different from what is proper in similar affections of other parts of the body, had been necessary in the cases which fell under his notice.

White swelling occupies a long chapter. The author does not adopt Mr Bell's distinction between rheumatic and scrofulous white swelling ;

and he differs from Mr Bell in many respects in his account of the symptoms. He does not notice that peculiar elasticity on pressure, so pointedly described by Mr Bell. He remarks, that the pain is confined to a circumscribed part, which is painful to the touch, and is in general sensibly warmer than the surrounding skin, and that often, though not always, there is a swelling of the inguinal glands. He asserts, that anchylosis only happens in cases of children, and that very rarely; whereas, Mr Bell mentions that consequence as a very common occurrence. The varicose state of the veins, noticed by the latter, is totally overlooked by our author; but he enumerates as a symptom of a very singular nature, a small intumescence at the top of the tibia, which, when examined by the touch, communicates a sensation as if it contained air. This is commonly below the patella; but sometimes he has seen it above that part. It takes place in the early stage of this disorder, is not constant in its occurrence, and “indicates nothing particular.”

In his account of the appearances on dissection, Mr Russell differs very essentially from his able predecessor. He denies that the end of the tibia is ever enlarged, and alleges, that
enlargements

enlargements of the condyles of the femur do not often occur; and he details with great minuteness and accuracy the several morbid changes.

He next enumerates the varieties in the progress and commencement of this disease. These are, *1st*, A swelling occupying the region of the two vasti muscles, from whence it “gradually travels downwards till it at last settles upon the joint:” *2dly*, Another species of swelling, occupying the same part, arising evidently from the effusion of a fluid, which, however, is plainly superficial, and wholly unconnected with the joint: *3dly*, A similar swelling, more deeply seated, connected with a certain degree of inflammation, which often is “of an unlucky kind, degenerating into symptoms of a genuine white swelling:” *4thly*, A very excruciating, deep-seated pain, unattended with external swelling or inflammation, supervening suddenly, confined to a limited spot, and not exasperated upon pressure, and proving very obstinate and untractable. This case has, he observes, been accurately described by Cheselden, who mentions, that where the limb has been amputated, in consequence of the severity and obsti-

nacy of the disease, no instance of which has occurred to our author, he found the bones softer than natural. The *last* variety is, where the motion of the limb, instead of being limited from rigidity, becomes more free from relaxation, so that it not only admits of complete extension, but even allows the leg to be bent somewhat forward.

The variations in the progress of white swelling he states to be very remarkable, as some cases reach their acmè within six weeks, while in other cases the disease continues for fourteen years, without reducing the patient to the necessity of parting with the limb.

This chapter is concluded with a very brief account of the nature of the disease, which our author pronounces to be decidedly “a modification of scrofula.”

Chapter 5. relates to simple inflammatory attacks. These are not only alarming from the nature of the affected part, but also from the accidental accession of new and additional symptoms, according as the patient has a scrofulous, or gouty or rheumatic tendency. “It is the nature of scrofula,” he observes, “to seize upon those parts of the body which
have

have been weakened by an injury, or by the previous attack of any other disease." He concludes, "that there is always reason to suspect, that somewhat more than simple inflammation will be the consequence of the attack, if we be certain that the patient's constitution is such as subjects him to attacks of scrofula, rheumatism or gout."

Dropical swellings are treated of in the 6th chapter. These are distinguished by the fluid, on the side of the knee, on being struck passing over to the other side, and communicating a slight impulse by its motion; by continued pressure depressing one side, while it elevates the other; and by the fluid, while it passes from one side to the other under the patella, making that part to rise above its ordinary level. These effusions sometimes arise from general weakness, as after low fevers; in other cases they originate from a syphilitic taint; and in these latter cases, the swelling has more tenderness, so as even to be painful on being touched; and in many instances they are the effects of a scrofulous habit. The dropies proceeding from the first of these causes sometimes disappear sponta-

neously, but those from the other two causes are never cured without the interposition of art. Those depending upon a venereal contamination are less liable to return than the other varieties.

Chapter 7. is dedicated to the consideration of what Mr Russell denominates "uncommon disease." It is anomalous and undescribed, and so rare that he has seen only four or five cases of it, which were far advanced in their progress, so that he does not profess to describe the incipient stages of the disease. At the time this complaint fell under his observation, it consisted of a very large swelling of an irregular shape, and firm consistence, without any sense of fluctuation being communicated to the touch. "But by applying gentle pressure over the whole surface, it was easy to discover that the different parts of the tumour possessed different degrees of firmness. There appeared to be a perpetual and progressive increase of size, though the violence of the pain and the general irritability of the tumour were by no means proportioned to the magnitude of the other symptoms. Even after they had attained a size far beyond what

a case of white swelling ever attains, the pain was not so severe." The size was such in one case, that within six weeks the circumference of the swelling measured in its largest dimensions twenty-eight inches ; the patient at the same time laboured under hectic fever. " In none of the cases was there any superficial redness of the skin, nor any other symptom of inflammation."

On dissection, the head of the tibia was found principally affected, having been in some cases considerably enlarged, and in others totally consumed. The enlargement is not so much an increase of substance, as a separation of the lamellæ of the bone from one another, resembling the structure of a piece of honey-comb. In this condition, it is very fragile ; and Mr Russell remarks, that he is uncertain, whether the great degree of fragility depend solely upon the mechanical change of structure, or be influenced by some morbid affection of the parts. The fibula is sometimes, as well as the tibia, affected in this disease ; its head being sometimes wholly consumed, in consequence of the great extension of the lamellæ, by which an extensive surface is exposed to the action of the contiguous soft parts.

These latter parts are so changed, as to resemble what has been “vaguely indeed termed a schirrous mass.” They are almost transparent and colourless, and of a soft gelatinous consistence, but possessing a sufficient degree of firmness to retain the form when cut into small pieces. One part is in a fluid state, the whole mass being nearly homogeneous, though some parts are rather firmer than others. In none of the cases was there any tendency either to inflammation or suppuration. In one case, the character of schirrous was very distinctly marked.

This disease he considers to be incurable, and to turn always worse when left to its natural course. Amputation even has not averted the fatal event; for in every case where that operation was had recourse to, the patient died of hæmorrhagy, in consequence, as he supposes, of the arteries being in a morbid state, not permitting adhesion of their sides after having been divided.

Moveable bodies form the subject of the 8th Chapter. The most certain symptom of the presence of a foreign body, is the occasional attack of violent pain. These substances appear, our author observes, to possess very
different

different properties, and to derive their origin from very different sources. He doubts the probability of their being formed, as Mr Hunter imagined, from a portion of effused blood. They are sometimes, he alleges, covered with a fine membrane, provided with a number of blood-vessels. Under this head, he includes an excrescence, which is attached to the capsular ligament, has much of the character of mobility, but is of a soft consistence, and is evidently of a very different nature from those substances which are found loose in the cavity of the knee-joint. This excrescence is generally complicated with white-swelling. A third kind of substance, met with in the knee-joint, he describes to have no vestige of distinct organization, and to resemble in appearance a piece of spermaceti, or the white of an egg coagulated. It derives its origin, he supposes, from the inspissation of the synovia. All these substances agree in certain essential circumstances: "in particular, none of them have any tendency to admit of a spontaneous and radical cure; they all produce either incessant or increasing irritation, or intermit only

ly for a time, in consequence of some change in their position."

These cases do not admit of resolution. Altering the position of the extraneous bodies, and retaining them by means of regulated pressure, is always a safe practice, though it be not invariably successful. The operation of extracting those substances can be undertaken only in cases where the bodies are quite loose in the joint; and even where they are, the operation is so dangerous, in our author's opinion, that unless the symptoms be very urgent, he advises it to be avoided. He concludes this Chapter with a minute detail of the manner of performing the operation.

In the 9th Chapter, our author proposes to treat of the "General Prognosis of Affections of the Knee-Joint." But his remarks are very concise, as he has inserted what he has to say on this subject in his Observations on the method of cure of the different affections.

Chapter 10. relates to the Cure of White Swelling. Our author differs from Mr Bell
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in his opinion respecting the utility of bleeding from the part at the commencement of the disease, and prefers the constant application of some astringent solution. Where, in consequence of external violence, the knee soon swells to a very large size, although the swelling be not very firm, and presents an obscure sense of fluctuation when examined by the touch, he recommends, from experience, a large blister over the part, as the best adapted remedy, and as one which seldom fails to remove the disease. Should the means of allaying the swelling employed in its incipient stage prove ineffectual, he advises recourse to be had to warm fomentations, which have been so long extolled in such cases. The instances of success from this plan, which have fallen under his observation, were chiefly cases “ in which there was a general soft swelling in the lower part of the thigh, which covers the upper part of the knee-joint.”

Anointing the parts with greasy substances, is not much trusted to by Mr Russell, though he does not object to the practice. When no relief follows from a perseverance in this plan, some means, calculated “ to change

change the action of the superficial parts," must be tried. Of the use of mercury with this view, and in this disease, our author speaks in terms of very decided disapprobation; another point in which he differs from Mr Bell. The continued application of a paste, made of powdered gum ammoniac and squill vinegar, he regards as singularly efficacious. In some cases, unction, with a combination of aqua ammoniæ and olive oil, or of oil of turpentine, with hog's-lard, or of distilled oil of amber, is useful. From electricity he has seen no benefit, except in anomalous, or tedious and stationary cases; and of issues, he does not speak more favourably. The use of the seton he condemns in very strong terms. The repeated succession of blisters he extols highly. He particularly cautions the practitioner to persevere in keeping a continued drain from the blistered part for some weeks, and not to despair in a hurry. The savine ointment he recommends for this purpose. The internal remedies, in the advanced stage of the disease, should consist of preparations of opium, Peruvian bark, but more particularly the mineral acids. A diet composed chiefly of milk, and farinaceous vegetables, answers best

best in these cases. In cicuta, and barytes muriata, he places no confidence. For cases which "begin in the form of a soft swelling, which lies over the region of the knee-joint, and arises from the collection of a fluid under the skin," he advises the application of a large blister. In some of those cases, it becomes necessary to evacuate the collection of matter; but there is always great difficulty of obliterating the cavity, as the surfaces have generally lost all disposition to adhere. Two means are advised for this purpose, viz. strengthening the patient's general habit, and the appropriated treatment of the sore. The former object is chiefly to be attained by sea-bathing, and the latter by the introduction of a seton, which he deems preferable to stimulating injections, or the mechanical pressure of bandages.

"The form of attack which is characterized by a relaxation of the ligaments, and a preternatural flexibility of the joint, is not a favourable subject of practice. It cannot," says Mr Russell, "be cured by any remedies with which I am acquainted." On the other hand, all the cases of that singular variety first mentioned by Mr Cheselden, in which
excruciating,

excruciating, deep-seated, circumscribed pain constitutes the essential symptom of the disease, which our author attended, terminated favourably, and required scarcely any very active treatment. In one case, however, the pain continued so violent, that the patient became anxious to part with the limb. But an incision having been made through the capsular ligament into the joint, "though without any definite object," entirely removed the complaint. Operations of this kind, in the early stages of white swelling, Mr Russell regards as exceedingly dangerous; and in the latter stages, as unnecessarily adding to the torture of the patient. Whenever the case is found to be so obstinate as to be declared desperate, then amputation ought to be had recourse to; and experience has convinced our author, that even where the patient has been much reduced previous to the operation being determined upon, the recovery has been rapid and wonderful from the time the diseased parts were removed. With respect to the method of operating, he decidedly prefers that which proposes to accomplish a cure, by procuring a coalescence of the lips of the wound by adhesion.

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The cure of simple inflammation forms the subject of Chapter 11. The remedies for this purpose which are recommended, are topical bloodletting by means of leeches, warm fomentations, and, failing these means, blistering. At the same time, blood should be drawn from some of the larger vessels, the bowels should be freely opened, and a diaphoresis promoted. When the symptoms are upon the decline, then is the proper time to employ cold and astringent applications.

But if suppuration be evidently going on, the plan must be changed for emollient poultices, and an early incision to discharge the matter.

The 12th chapter relates to the cure of rheumatic and gouty affections. For the former cases he advises topical bleeding, blisters, and warm fomentations, and friction with stimulating substances. We are surprised that he has omitted mercury. Gouty affections do not admit, he thinks, of active treatment.

The case of dropical swellings is detailed in the following chapter. Where these proceed from general debility of the system, no
local

local remedies have any effect, the disease yielding only in proportion as the patient gains strength. For dropfical swellings, arising from venereal contamination, a continued course of mercury is chiefly to be depended upon. In cases occasioned by scrofula, the symptoms may be made to disappear for a time by one or two extensive blisters; but there is reason to dread future disease; and in one case, incurable white swelling supervened within twelve or fifteen months. In idiopathic dropfies, arising from an obscure origin, he advises electricity and stimulating applications, especially blisters, and, along with these, purgatives he deems very useful. An operation to discharge the effused fluid he mentions as a dernier resource, but as being so seldom necessary, that he never had occasion to prescribe it.

The 14th chapter is entitled, "Concerning the Bursa Mucosæ." Enlargement of the bursa connected with the ligament which is attached to the head of the tibia, is first described. This may be troublesome from its size, but is never followed by any more distressing consequences. Where inflammation attends,

attends, leeches are necessary; but in the more common cases, the use of a solution of ammonia muriata is sufficient, or if that fail, a blister generally accomplishes a cure. But a relapse is always to be dreaded. The best preventives are moderate pressure and cold lavation. Should these prove insufficient, an opening ought to be made into the bursa, and the rest is to be trusted to time, as our author thinks it dangerous to employ stimulant injections to procure the obliteration of the cavity, and he has always found that the disease yielded to patience and forbearance.

Affections of the bursæ, connected with the extensors of the leg, are of a more serious nature. These cases are distinguished from a superficial collection under the skin, in being of a more distinct shape, and apparently deeper seated, and in having a more tense feeling. They are distinguished from a dropsical swelling in the joint, of their situation, in the impossibility of making the fluid undulate from one side of the knee to the other, and “from the circumstance of no elevation of the patella ensuing from any mode of pressure.” With respect to the treatment, bleeding is rejected, and solutions of acetite of lead and of ammonia muriata, with the application of blisters,

employed with steadiness, and persevered in for a considerable length of time, are recommended. An incision into the burfæ, where the other means fail, is strongly reprobated; and the practices of endeavouring to burst the membrane of the bursa, or of introducing a seton, are also condemned.

The last chapter contains an account of the anchylosis of the knee-joint. This happens in three different ways, viz. by a bridge of bone extending through the cartilages, and connecting the articulating surfaces, by the destruction of the cartilages and the union of the denuded ends of the bones, and by the ossification of the ligament. The second of these processes is always attended with such danger in adults, that life is destroyed before it can be completed. No means of art can be employed, either to promote or to check the progress of anchylosis.

Formulæ of the savine ointment, and the astringent solutions which had been recommended, and three plates illustrating the uncommon disease, and anchylosis, complete the work.

Having

Having given such an extended analysis of Mr Russell's Treatise, we need not offer any elaborate critique. Throughout the whole he has displayed extensive experience, accurate observation, and particular attention to explain the several circumstances by which the prognosis and the treatment may be regulated. We trust, however, that the candour of the author will forgive our hinting, that young practitioners may be embarrassed by the arrangement which he has adopted. We do not so much object to the plan "of arrangement being in some measure modified by the line of facts which have occurred to the author in the course of his practice," as to the interposing various subjects between the description of the phenomena, and the mode of treatment of the several diseases. This method not only deprives the reader of a connected view of the disorders, but also subjects the author to the necessity of repetitions, which give a very unscientific form to a treatise. All this may be easily avoided in a future edition.

VIII.

Dissertations on White Swellings of the Joints, and the Doctrine of Inflammation. By John Herdman, M.D. Fellow of the Royal College of Surgeons of Edinburgh. 8vo. Edinburgh, 1802.

THIS work consists of four dissertations, of which we shall offer only a short analysis, because the ingenious author depends more upon analogy than direct facts for the support of his opinions, and therefore it is but fair to refer those who wish for a knowledge of his arguments to the original work.

The first dissertation is on the nature and cure of scrofula. Dr Herdman in his dissertation enters at once, without any previous view of the phenomena of scrofula, upon the causes of that disease. The predisposing cause he urges to be a peculiar organization originating from the parents. "Now, as the exciting causes of scrofula

scrofula cannot always be clearly ascertained ; as it seems to take place independently of the operation of such causes ; and as it is of such difficult cure, we must infer that it is hereditary ; that scrofulous children derive a scrofulous diathesis from their parents ; and that it is interwoven, as it were, in the very nature and essence of their constitution. This is most probably the great origin of scrofula ; it is an actual scrofulous diathesis ; a hereditary disease."

The Doctor is led from this to investigate the nature of predisposition to disease. He seems, however, to have overlooked the distinction between the predisposition which arises from altered functions in the system, or any part of it, and that which is the effect of the natural, original, or acquired structure of an individual.

Every circumstance which can debilitate, such as mismanagement during infancy, or in the progress towards manhood, and the operation of certain specific poisons and contagions, he alleges to be the exciting causes of scrofula.

From these premises, Dr Herdman deduces the following conclusion : " If, then, there

be any truth in this doctrine, if external causes are any way concerned in the production of scrofula, and if these causes are deranging and debilitating in their nature and effects, it follows that powers of a similar nature, or powers capable of inducing similar effects, are by no means admissible in the cure of the disease. Agents of an opposite nature are surely indicated; agents capable to restore and increase the vigour of the animal structure; to render its actions more forcible, and its functions more perfect; in short, to produce the most perfect state of vigour, of which the scrofulous body is susceptible. This we hold to be a great and leading indication in the cure of the disease, to which every other is only auxiliary or subordinate; yet hitherto, perhaps, its importance has neither been properly nor sufficiently considered."

After having detailed at considerable length his objections to purgatives, and other evacuates, our author states his principles of cure in the following words: "Were there not another fact than this single one, that as the growth and vigour of the body increase, scrofulous ulcers heal, and scrofulous joints ankylose,

anchylose, it is enough to condemn the use of evacuations, and every other the least debilitating or deranging power, and to establish an opposite method of cure ; a method of cure to produce the most perfect state of vigour of which the scrofulous body is susceptible. This is the method of cure which nature herself points out, and therefore it must also be right to assist her in her operations, and extremely wrong to disturb or oppose them.

The second dissertation contains an examination of the grounds on which white swelling of the joints has been divided into a scrofulous and a rheumatic species. The author's object in this dissertation is to shew that the distinction of white swelling into two species, viz. rheumatic and scrofulous, suggested by Mr Benjamin Bell, is unfounded. For this purpose, he has offered an ingenious verbal criticism of Mr Bell's observations, and in contradiction to that gentleman's opinion, asserts, " that between acute rheumatism and white swelling, there is no sort of analogy, neither as to their causes, their symptoms, their terminations, their proper method of cure, nor any thing else."

The doctrine of inflammation, and the causes and nature of white swelling of the joints, are considered in the third dissertation. His reasoning upon these points is analyzed by the author himself so accurately and concisely, that it would be impossible to detail it better in other words.

“ We have treated on inflammation, on purpose to shew that white swelling neither depends on a phlogistic or a rheumatic disposition or diathesis, nor on plethora, nor over-excitement, nor any thing comprehended in these doctrines. We have seen that these doctrines are not strictly applicable to inflammation itself; that it does not depend on over-excitement or increased action, because increased action cannot exist independently of the immediate operation of a powerful stimulus, or the stimulus of some local disease; that the highest degree of excitement constitutes health; that this degree of excitement gives the highest degree of resistance to the exciting causes of inflammation; that the body is the more obnoxious to the influence of these causes, in proportion as it recedes from health, or is deranged or debilitated; and that, in short, inflammation
differs

differs not in this respect from any other disease.

“ Now, we suppose an individual in a state of perfect health, in a state of the highest degree of vigour or excitement ; we may suppose him subjected to the operation of temperature causing inflammation ; but to produce this effect, it must operate with a high degree of force ; and having thus operated, it will produce inflammation, and will produce irritation, and consequent over-excitement and increased action. Thus is over-excitement and increased action fully established ; but they did not exist previous to the inflammation ; for prior to this there was nothing but that degree of excitement which constitutes health.

“ Again, we may suppose a body of another description deranged or debilitated with a comparatively low degree of excitement. In this body a much lower degree of force in the operation of temperature will produce inflammation, and, once produced, the symptoms will be very different from those in the vigorous constitution. This body was deranged or debilitated previous to the inflammation, and therefore can shew no other symptoms but those of debility. The action of the vascular

cular system will be accelerated, but not, properly speaking, increased. There will be febrile and typhoid symptoms, and every symptom of debility.

“ If the inflammation of white swelling can be likened to any thing, it is to this kind of inflammation ; to inflammation of the most passive kind ; to chronic rather than to acute rheumatism. But it will liken unto no disease whatever ; to no kind of rheumatism ; to no kind of inflammation. The inflammation of white swelling is an inflammation *sui generis* ; it is produced and modified by an internal cause, by a scrofulous diathesis ; and must therefore be different from any inflammation arising from an external cause ; yet it is surely more like unto passive than unto active inflammation, more like unto passive than to acute rheumatism ; though the analogy to either, and more especially to the latter, is surely very far distant.

“ It is unlike active inflammation, because it is not connected with high excitement and increased action ; and, for the same reason, it is unlike acute rheumatism ; it is more like passive inflammation and chronic rheumatism, because, like these diseases, it is connected
with

with a low excitement and languid action. In these respects, it may be compared to passive inflammation and chronic rheumatism, though in other respects there is no sort of analogy.

“ In as far, then, as low excitement and languid action are concerned, there is some analogy between white swelling and passive inflammation and chronic rheumatism. It is like passive inflammation, also, inasmuch as it has a strong tendency to terminate in suppuration; but in this respect it differs totally from every species of rheumatism.

“ While the subjects of white swelling are without plethora and without a phlogistic diathesis, they have the debility of growth, and, added to this, they have hereditary or inherent disease. The actions of their bodies are displayed in a manner languid and morbid. Instead of their systems being perfectly renewed, and growing up to health, maturity and vigour, and the different organs performing their functions as they ought, scrofulous affections take place of various kinds, and, among the rest, white swelling. This is the great and fundamental source of white swelling: it is an actual scrofulous diathesis, an hereditary

reditary disease: it is displayed by languid and morbid actions, and imperfect functions; aided by the debility of growth, it gives rise to white swelling. The causes, of themselves, are sufficient to produce this disease, and do most frequently produce it. They seldom require the aid of other causes; and when other causes do operate, they all tend to a somewhat similar effect: they all tend to production of derangement or debility: And thus is white swelling produced, either by the scrofulous diathesis and the debility of growth simply; or by the help of other causes which induce a still greater depravation of the scrofulous body, and throw it into the state of actual disease.

“ In all this there is no plethora, nor no phlogistic diathesis. Plethora, and over-excitement, are unfounded in the nature of things; they are incompatible with the scrofulous diathesis; they are incompatible with the debility of growth; they are incompatible with all the causes which tend to the production of white swelling. In the scrofulous body, in the body with white swelling, there is nothing but languid and morbid actions, and imperfect functions. The symptoms of derangement and debility are many; there is not a
single

single reason to suppose an opposite state of the body ; there is not a single reason, nor a single consideration to support the practice of bleeding, and cupping, and scarifying, and leeching, and cooling laxatives, and a strict antiphlogistic course, both as to diet and every other circumstance ; but every reason, and every consideration, to support and indicate a practice of directly opposite powers and effects."

The method of cure which should be employed in cases of white swelling, forms the subject of the fourth dissertation. This is divided into two parts, the constitutional treatment, and the treatment of the local affection.

" With respect to the first point," he observes " there is no fixed rule, farther than that the patient be supported by a due application of the ordinary powers of life, and certain artificial stimuli." The management of temperature is also a point of considerable importance in our author's opinion, and has not been sufficiently attended to. The use of the warm-bath, he says, has both principle and experience in its support. In short, according to Dr Herdman, in the general treatment of the patient, we should have this principle
in

in view, that the system be preserved, and supported by a due and well-ordered application of heat, air, and aliment, and its actions excited by the cautious use of certain artificial stimuli.

The local treatment of white swelling is directed for three different stages of the disease, viz. 1st, Previous to suppuration, and with a view to prevent it. 2dly, Where that takes place; and, 3dly, During the progress of the anchylosing process.

For the first, he advises the stimulus of heat, the application of pressure by means of a flannel roller, and preserving the joint from motion. Should these means fail, friction, with linimentum opiatum, or some oleaginous substance, the use of mercury, the application of blisters, or the establishment of caustic issues, must then be had recourse to.

When the suppuration stage takes place, "it must," we are told, "either terminate in amputation, in the death of the patient, or in anchylosis. Now, it is our business to prevent the two former terminations, and to forward the completion of the latter." For this purpose, he thinks that no punctures or incisions, or setons, or tents, or cauteries, ought ever

ever to be employed. Cleanliness, soft and easy dressings, and flannel rollers, together with perfect rest of the limb, and due attention to the general habit, constitute the whole plan of treatment, where anchylosis is expected or wished for.

With respect to the question of amputation, it is admitted to be "a nice and delicate question. It rests with the sagacity and judgment of the practitioner to decide, according to the strength or weakness of the patient; according to the degree of force in one and all the functions; according to the degree or severity of the constitutional, as well as the local symptoms; by a cautious and discreet induction of every the most minute point, to judge whether there be a greater chance or probability of the formation of anchylosis, or the death of the patient; or to determine whether he should continue to assist the powers of nature to the production of anchylosis, or whether proceed to the amputation of the limb."

It is rather an unfortunate circumstance, that Dr Herdman has not adduced the treatment of any proper case of white swelling, in proof of the validity of his principles. One
successful

successful case would have afforded a much stronger argument in favour of the plan proposed, than whole sheets of declamation. We have no objection to a cautious trial of a different method of treatment from that hitherto pursued in cases of white swelling, but in a professed dissertation on a disease by a practitioner, our readers might perhaps expect some practical remarks, instead of hypothetical speculations.

IX.

IX.

An Examination of the Report of the Committee of the Commons, on the Claims of Remuneration for the Vaccine Pock Inoculation, containing a Statement of the principal historical Facts of the Vaccina. By George Pearson, M. D. F. R. S. Physician to the Vaccine Institution, senior Physician to St George's Hospital, Honorary Member of the Board of Agriculture. 8vo. London, 1802.

THE important truth which has lately been established, that, by means of vaccine inoculation, complete protection is afforded against that dreadful scourge of the human species, the small-pox, is perhaps the most useful improvement that for a century past has been introduced into the practice of medicine. The British Parliament, actuated by those principles of justice and liberality which have long distinguished their conduct, have bestowed a

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considerable pecuniary reward on Dr Jenner, who, to use the words of Dr Pearson, “ was the unquestionable discoverer to the public of vaccine inoculation.” That reward was bestowed by the King and Parliament of the British empire, after a full investigation of the claim by a Committee of the House of Commons. On that occasion, the Committee examined upon oath many different medical practitioners, that they might be able with justice to determine the precise degree of merit which Dr Jenner really had in this business; the expence he had incurred in establishing the point; the loss he had sustained in freely communicating it to the public; and the amount of the remuneration which, from a due consideration of every circumstance, ought to be bestowed upon him.

It was not to be expected, that on all these points every practitioner examined would be of precisely the same opinion. It was not unnatural to suppose, that an error might be committed by some in estimating his merit too highly, and by others in depreciating it much beyond the truth. While it might be the opinion of one practitioner, that he was the sole and original discoverer of the important

tant truth, that the vaccine contagion gives complete defence against the variolous,—another might think, that this truth was with certainty established before he was born, and that he had merely the merit of having first put in practice a hint long before given by others, of employing vaccine contagion to useful purposes. While some might imagine, that Dr Jenner had published and propagated this doctrine, like the reformers in religion, at the risk of his character, of his life, and the expence of his whole fortune,—it might seem to others, that after having merely confirmed, by a very few experiments, a hint before given by preceding practitioners, he had remained perfectly at his ease, deriving even very considerable emolument from his own private practice in vaccine inoculation, and had left entirely to other medical men, both the labour and expence of propagating vaccine inoculation, not only over the British dominions, but over the whole world, for the benefit of the human species.

We are inclined to think, that these very opposite opinions are equally erroneous. And while we allow a high degree of merit to Dr Jenner, we are at the same time of opinion,

that his efforts, if they had been not only unaided, but opposed by those who have taken an active share in promoting this business, would have done little. The early and strenuous exertions of others, and particularly of the learned and ingenious author whose work is now before us, have, we are convinced, been productive of inestimable benefit to mankind. In Dr Pearson's examination, however, before the Committee of the House of Commons, the answers which he gave to certain questions that were put to him, did not altogether accord with the opinions of some other physicians. And in some accounts which were published of the procedure before the House of Commons, very unjust and illiberal reflections were thrown out against the answers which Dr Pearson gave to the Committee, particularly on his second examination.

These injurious remarks have probably given birth to that *Examination of the Report of the Committee*, which Dr Pearson has here presented to the public. In this examination, though Dr Pearson sets out with declaring, in the most unequivocal terms, that he considers Dr Jenner as the discoverer to the public of vaccine inoculation, yet he endeavours to
trace

trace the discovery to its real origin, and to give due merit to several gentlemen who, at an early period, exerted their endeavours in promulgating the advantages, and in forwarding and encouraging the practice, of vaccine inoculation. He also endeavours, with much judgment and ingenuity, to point out what he considers as erroneous opinions which have been held by Dr Jenner on the subject of the vaccina ; to defend those doctrines respecting the disease, which he thinks consistent with truth ; and to illustrate and explain that mode of practice, which, in his opinion, will lead to the extension of vaccine inoculation over the whole world, with the greatest benefit to mankind. It will therefore, we presume, be not unacceptable to our readers to be presented with a short view of some of the most interesting information contained in the work now before us. If, however, we were to enter at any length into this subject, it would necessarily lead us to a repetition of many particulars which we have formerly stated to our readers from different works, particularly from Dr Pearson's former publications. Leaving, therefore, the important question, whether cow-pox does or does not origi-

nate from the greafe in horfes, to future difcuffion and experiment, after what we have already faid upon the fubject, we fhall on the prefent occafion confine ourfelves more particularly to what refpects the report of the Committee of the Houfe of Commons.

Dr Pearfon fets out with diftinguifhing inoculation for the cow-pox into three kinds :

1. Cafual inoculation from the cow.
2. Intentional inoculation directly from the cow.
3. Inoculation from the human animal.

According to the report of the Committee, the diforder itfelf, cow-pox, and its fpecific property of fecuring againft fmall-pox infection, was not a difcovery of Dr Jenner : and they farther report, that in fome rare inftances it is not improbable that inoculation of cow-pox, purpofely and directly from the cow, was praftifed antecedently to Dr Jenner. But they ftate, that he is the original inventor of the third kind of inoculation above diftinguifhed, the communication, viz. of vaccine matter from human animal to human animal. According to Dr Pearfon, however, Dr Jenner had claimed in his petition to the Houfe of Commons the difcovery of inoculation directly

rectly from the cow, either casually or purposely, as his right. Dr Pearson therefore proceeds, in the first place, to expose the extent to which the casual inoculation of cow-pox was known to the world prior to Dr Jenner, and to state the simple ingenuous efforts of the primitive cultivators in the new field, which are barely acknowledged in the report of the Committee.

With regard to the effect of the casual cow-pox in preventing the small-pox, no fact in physic, Dr Pearson observes, has been more clearly ascertained by a large body of the most respectable evidence, than that this was well known long before Dr Jenner's book appeared. This evidence, collected from different parts of England, Dr Pearson published more than four years ago; and, on the present occasion, he thinks it sufficient to select only one testimony, that, viz. of Mr Rolph of Peckham, which puts this matter beyond all doubt.

With regard to the second point, instances of cow-pox, purposely excited, by inoculating directly from the cow to prevent the small-pox, antecedently to any trials made by Dr Jenner, as the surest method that could be

adopted, Dr Pearson records the evidence of these in the order of time. On this subject he presents the reader with extracts of letters from Messrs Downe, Bragg, Drew, Tucker, Dolling, Nash, De Carro, and others, from which it appears, that in different countries, and at different periods, long prior to Dr Jenner, the inoculation of vaccine matter had been practised upon children, with the view of preserving their beauty, by preventing small-pox.

Dr Pearson next proceeds to treat of the third question, viz. on the vaccine inoculation from human animal to human animal. This subject he discusses at much greater length, and introduces many important particulars noticed in his former publications. We shall here, therefore, content ourselves with merely stating the short view he has given of different attestations for the discovery of vaccine inoculation, as delivered in the report of the Committee; and we shall present to our readers Dr Pearson's second examination at full length, from which it will appear how far and on what grounds his sentiments differed from those of some other practitioners.

“ The

“ The vaccine inoculation was never heard of until after the publication of Dr Jenner’s works, (Ash, p. 13.). Considers Dr Jenner as the original discoverer of vaccine inoculation, (Woodville, p. 13.). Attributes the discovery solely to Dr. Jenner, (Blane, p. 14.). Considers Dr Jenner as the inventor of vaccine inoculation, (Knight, p. 15.). The inoculation of the cow-pox he considers as having been exclusively introduced by Dr Jenner, (Dale, p. 19.). Considers Dr Jenner as exclusively the discoverer, (Downman, p. 19.). He derived his knowledge, in the first instance, from Dr Jenner, and afterwards from other sources, referring to letters from Mr Downe and others, (Pearson, p. 21.). Upon being asked, whether the information contained in these letters arose from Dr Jenner’s publication of his discovery, or from previous knowledge of vaccine inoculation? he answered, that he imagined that they were independent of each other. He states, that the discovery of inoculating with vaccine matter from one human being to another, is exclusively Dr Jenner’s. He farther states, that although Dr Jenner first set on foot the vaccine inoculation, it was established by the extensive practice of other persons,

sons, viz. Dr Woodville and himself, who had published treatises and lists of cases on the subject. He said that they had, in the course of this practice, discovered some errors in the theory and opinions first published by Dr Jenner, which opinions, however, he said, on being questioned, Dr Jenner had not retracted or admitted to be erroneous. And being asked, whether Mr Cline, had not inoculated with vaccine matter furnished by Dr Jenner before Dr Woodville began to practise? he said he could not distinctly recollect, (Pearson, p. 22.). Considers Dr Jenner as the person to whom much merit is due for publishing cases of vaccine inoculation, which practice he never heard of before that publication, (Keate, p. 25.). He looks upon Dr Jenner as the author of vaccine inoculation, and believes no medical man doubts it, (Bradley, p. 30.). He never heard of vaccine inoculation previous to its introduction by Dr Jenner (Farquhar, p. 30.). Considers Dr Jenner as the author of vaccine inoculation, (King, p. 31.). Dr Jenner first ascertained the various and important facts upon this subject, (Saunders, p. 32.). Looked upon Dr Jenner as the discoverer of vaccine inoculation,

tion, (Lettfome, p. 33.). Considers Dr Jenner as the original proposer of vaccine inoculation, (Frampton, p. 35.).

To this short abstract of the evidence given by many respectable practitioners, some of whom had never heard of cow-pox prior to Dr Jenner's publication in 1798, while others of them consider him as the sole inventor of vaccine inoculation, and even go so great a length as to believe that no medical man can doubt that it was entirely an invention of his own, we shall present to our readers Dr Pearson's second examination at full length, extracted from the Philosophical Magazine, in which it has lately been published.

“ Dr Pearson's second and last Evidence.

“ Mercurii, 14 Aprilis 1802.

“ Admiral BERKELEY in the Chair.

“ Dr Pearson was called in and examined, and stated, that Dr Heberden * authorised him to state, on the authority of Dr Lind, and Mr Battiscomb of Windsor, that there is now living near Windsor a person (the son of an

* See Dr Heberden's evidence, annexed to this of Dr Pearson.

an apothecary) who many years ago was inoculated for the cow-pox.

“ Did Dr Heberden inform you whether this inoculation was performed from one human being to another, or from the virus taken immediately from the cow ?

“ A. This is a question I cannot answer.

“ What further facts do you know affecting Dr Jenner’s claim of being the promulgator, or inventor of vaccine inoculation ?

“ A. I have admitted Dr Jenner was the gentleman who first set on foot the inquiry into the advantages of vaccine inoculation ; but I apprehend that the practice of vaccine inoculation, which was first promulgated by Dr Jenner, has been established almost entirely by other practitioners, and that his new facts, or what I consider to be new, have been, in my opinion, disproved by subsequent observers ; and that in consequence of those facts being disproved, together with the very extensive experience of other persons, we owe to them the present practice of the vaccine inoculation.

“ Will you inform the Committee who those practitioners and persons were to whom you refer ?

“ A. The

“A. The cow-pock inoculation, after Dr Jenner’s book was published in May or June 1798, which contained seven or eight cases, (the whole result of his experience,) was not practised by any person that I know of, till January 1799; neither Dr Jenner, nor any other person that I could find, being in possession of matter: but in January 1799, in consequence of a general inquiry, which I had instituted immediately after Dr Jenner’s publication, information was given of the cow-pock disease breaking out in two of the cow stables near London; and from these sources Dr Woodville and myself collected matter, by which, in the course of about three months, not fewer, I think, than about 300 persons were inoculated, in addition to the seven or eight cases of Dr Jenner, then the whole stock of facts of inoculation before the public. Besides carrying on the inoculation ourselves in this manner, we disseminated the matter throughout the country, in particular to Dr Jenner * himself; and particularly also

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* See Dr Jenner’s Letter in Dr Pearson’s Inquiry 1798, in which he says no matter can be had. Dr Jenner, both in letters to Dr Woodville and Dr Pearson, owns this matter excited the genuine cow-pock.—Note of the Evidence.

I within that time issued a printed letter, directed to upwards of 200 practitioners in different parts of the kingdom, containing thread impregnated with cow-pock matter. In the course of this practice we already learnt that young infants might be inoculated with safety, which I considered to be then a new fact, Dr Jenner not having had the experience, and being apprehensive of serious * consequences from inoculating them.

“ *Secondly*, That the inoculated arms, so far from requiring caustic or escharotic, or other topical applications, according to Dr Jenner, were sooner cured than in the inoculated small-pox : That Dr Woodville’s publication, in June 1799, appeared, containing the cases of upwards of 400 inoculated up to that time : and in August 1799 I published a statement of inoculation, referring to many practitioners who had furnished me with reports of inoculation with matter which I myself had furnished : among these I beg leave to mention Mr Kelson, of Seven Oaks ; Dr Mitchel, of Chatham ; and Dr Harrison’s cases ; as communicated to me by the Right Honourable Sir Joseph Banks :

* This is also acknowledged in Dr Jenner’s Letter to the Evidence in February 1799.

Banks : and by that time I had also introduced it into the army, through the hands of the surgeon-general, Mr Keate ; and reports frequently came into my hands, by his direction, from the army. I had also by that time introduced the vaccine inoculation into many parts of the Continent, and received reports of the successful practice of it ; in particular from Dr De Carro of Vienna. In addition to these testimonies contained in the paper above alluded to, is the result of my own practice in three parishes of poor people inoculated under my superintendence ; so that in that paper, I believe, it will be found that 2000 cases had by that time been afforded for the public by Dr Woodville and myself, and the persons with whom I was in correspondence, and who are mentioned in the papers alluded to. By this time, too, some difficulties appear to have been removed which had been occasioned, in a great measure, by some facts stated to the public by Dr Jenner. In particular, I published experiments of inoculation in the paper alluded to :—1st, of inoculating persons with the cow-pock who had undergone the small-pox, to show that they could not take the cow-pock after the small-pox,

contrary

contrary to Dr Jenner : 2dly, Experiments to show that persons could not take the cow-pock both locally and constitutionally who had already gone thro' the cow-pock, also contrary to Dr Jenner : 3dly, Many persons had by this time made experiments to show that the cow-pock did not originate in the grease of horse-heels, as Dr Jenner had asserted. These sentiments will be found in a printed statement, which I beg to deliver in as published by me.

“ In the spring of the year 1799, whilst the above-stated evidence was collecting, a second publication appeared from Dr Jenner, adding nothing but a few cases of inoculation further of the cow-pock, but recommending caustic or escharotic applications to the inoculated parts in the cow-pock, not found necessary by myself or the medical persons alluded to in my evidence: and I consider that the distinctive characters of the cow-pock were understood better by some of the above alluded to persons than by Dr Jenner.

“ The vaccine inoculation was next considerably established by the Cow-pock Institution, of which I was one of the founders, the arrangement for which commencing at the
very

very close of the year 1799 ; which Institution has been the principal office, I apprehend, for supplying the world in general, and the army and navy in particular, with matter ; and where a regular register is kept of each of the cases inoculated, more fully and accurately than had been done any where before or since that time ; where the authenticity of the cases, from the nature of the institution, is established in a manner that, I apprehend, will be considered as unexceptionable. This appears from a register of above 700 cases already entered, and open to the inspection of the subscribers. By this time, namely, the close of the year 1799, I think I can make it appear that about 4000 persons have been inoculated by Dr Woodville, myself, and correspondents, which can be referred to. I here close my evidence, as I consider it of very small importance, comparatively, what was done by others after this time ; all the facts that I recollect of use in practice being by this time established as they have been since confirmed.

“ Did you never hear of inoculation having been performed by Mr Cline, with matter

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furnished by Dr Jenner, previous to the time you began to practise vaccine inoculation ?

“ A. I cannot recollect distinctly *.

“ Were not seven or eight cases of Dr Jenner alluded to by you, cases of inoculation from one human being to another ?

“ A. Some of them were ; some were not.

“ Had not many, or a large majority of your first cases, variolous-like eruptions ?

“ A. The matter, which had never been in the Small-pox hospital, and which I myself took from the cows at the two cow stables above alluded to, scarcely ever afforded any eruptions like the small-pox ; but when I obtained matter to supply my correspondents in the country, not having enough of my own, but obtaining it from the Small-pox hospital, it frequently, according to the reports of my correspondents, and in a few cases where I used it myself, did produce such eruptions.

“ Was not the matter, or virus, which you distributed, found great fault with on account of the eruptions it produced ?

“ A.

* The evidence afterwards found there had been a single case, but from which no one had any benefit by matter, nor was it published till the following year.

“ A. No, it was not found fault with ; but many people were disappointed, as they expected that one of the advantages attending the inoculation was to be exempt from the eruptions.

“ Did not these eruptions, which were produced by your matter, very much discourage practitioners and the public, and very much retard the progress of the new inoculation ?

“ A. I should think it did not ?

“ Do you not know there is a case in Dr Jenner’s first publication of his having inoculated a child of eleven months old * ?

“ A. I believe there is one case.

“ Did not Dr Woodville and yourself take the vaccine matter in Gray’s-inn lane, for the purpose of commencing your experiments, from a person fully marked with the small-pox ?

“ A. No such case is in my recollection.

“ Have those facts stated by you to militate against Dr Jenner’s declared opinions remained uncontradicted by him ? Does he still maintain them, or has he publicly retracted them ?

“ A. I think he has not retracted them.

[Withdrew.

* See note p. 181. on the inoculation of infants.

Dr. Heberden's Evidence.

“ Dr Heberden, being called to speak to the statement made as above written, said, “ That all he knew upon the subject was, about three years ago, Dr Lind of Windsor, mentioned to him, in conversation, there was living, near Windsor, a young man, apprentice to an apothecary, who, when a child, was inoculated with vaccine matter by his father, who was an apothecary in the west of England. With respect to Mr Battiscombe he could not speak, having heard nothing of it.”—On this extract, from the minutes of the Committee of the House of Commons, the following remarks have been published : “ In his (Dr Pearson's) examination of the 14th (April) the authority of Dr Heberden is made use of to prove what on that gentleman's examination *was found completely erroneous, for he could not speak to what Dr Pearson asserted he could ; and of Mr Battiscombe he had no knowledge.* On this it is unnecessary to make any comment ; the conclusion must be obvious.’

“ These assertions, made from the words of Dr Heberden's evidence,, must appear unwarrantable,

tantable, by merely publishing this gentleman's explanation subjoined, obligingly communicated at the request of Dr Pearson, who is conscious that he had been sufficiently correct in the statement above given on the authority of Dr Heberden.

“ Dr Heberden acquiesces in the correctness of his printed evidence, with the addition of only two words, viz. “ having heard nothing of it (*from him*).” In fact, Dr Heberden was acquainted with Mr Battiscombe, but received his information respecting the vaccine inoculation from another quarter. Still it is true, that when Dr Heberden mentioned the circumstance to Dr Pearson upon Dr Lind's authority, he corroborated his statement by adding, that Dr Gilborne had been made acquainted with the same account through Mr Battiscombe. So that Dr Heberden may, in effect, be said to have related the circumstance to Dr Pearson, upon the united testimony of Dr Lind and Mr Battiscombe ; though his information in the latter case not having been derived *immediately* from that gentleman, he could not, with propriety, produce to the committee the au-

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thority of Dr Battiscombe for what he had heard upon the subject."

From this declaration by Dr Heberden, there can be no doubt that Dr Pearson has asserted no more on his authority than was really true. When, therefore, it has been affirmed, that Dr Pearson's statement was completely erroneous, and that Dr Heberden had no knowledge of Mr Battiscombe, these assertions are no less unjust than they are injurious to Dr Pearson.

Upon the whole of this matter, we think there can be little doubt of the truth of the following conclusions.

1. That the cow-pox was a disease well known both in some parts of England and in other countries long before Dr Jenner was born.

2. That it was a prevailing opinion, that those of the human species who had accidentally been affected with the cow-pox, were by that means protected against the contagion of small-pox.

3. That in some instances the cow-pox had been intentionally communicated to the human species prior to any of Dr Jenner's publications,

blications, with the view of obtaining protection against the contagion of small-pox.

4. That Dr Pearson was not correct when, in his first examination, he stated to the Committee of the House of Commons, that the discovery of inoculating with vaccine matter from one of the human species to another, was exclusively Dr Jenner's.

5. That the extensive employment of vaccine inoculation, as a means of preventing small-pox since Dr Jenner's first publication in 1799, has not been merely owing to his liberal conduct and benevolent efforts, but to the spirited and unwearied exertions of many other eminent practitioners, who adopted the practice almost immediately after his work appeared, and particularly that *the vaccine institution of London* has been of very great importance to mankind, by affording a supply of matter to the world in general.

But, to all these conclusions, we have also no hesitation in adding as the 6th and last, That the human race are principally indebted to Dr Jenner for all those inestimable benefits which, since the year 1799, they have derived from vaccine inoculation; and that

he has a just claim to the gratitude of latest posterity.

Although, therefore, he has not strictly a title to the claim of being an original discoverer on this subject, yet the remuneration which he received from the British Legislature was no more than he was justly entitled to. Indeed, if Parliament had conferred upon him double the sum that was really voted, few would have considered it as too great a reward for his ample and unreserved communications on this subject.

But if, from attention to the public purse, Dr Jenner has received too inconsiderable a reward from his native country, we may yet hope that ample compensation will be afforded him, not merely from the generosity, but from the justice of other nations. To the extensive empires of Germany and Russia, and to the populous territories of France, this discovery is of much greater importance than it is to the British Isles. We trust, therefore, that the rulers of these kingdoms will not leave unrewarded the man, by whose means they have principally obtained, under the mild form of the cow-pox, an antidote

dote, that is capable of extirpating from the earth a disease, which for many centuries past has every hour destroyed numerous victims, and which has been justly considered as one of the most severe scourges of the human race.

X.

Practical Observations on Inoculation of the Cow-Pox ; pointing out a test of constitutional Affection in those cases in which the local inflammation is slight, and in which no fever is perceptible. Illustrated by Cases and Plates. By James Bryce, Member of the Royal College of Surgeons, Edinburgh, Surgeon to the Orphan Hospital, and one of the Surgeons to the Institution for the Gratuitous Inoculation of Cow-Pox. 8vo. Edinburgh. 1802.

ALTHOUGH much has of late been written respecting the cow-pox, and although vaccine inoculation is so safe and easy an operation, that it is every day practised with the most perfect success, both by old women and young ladies, yet there are some points respecting it which it would be of very great importance to ascertain: and, in particular, a test by which it may with certainty be determined, whether the constitution has been affected or not, has hitherto been a great desideratum. It has been chiefly from the want of such a test that discredit has been thrown upon

upon the operation. By a mere local disease, protection will not be afforded against the contagion of small-pox. And the occurrence of natural small-pox, after vaccine inoculation, where a local disease only had taken place, but has been mistaken for a constitutional disease, has led some to doubt a fact which we consider as now altogether undeniable, that viz. vaccination gives complete protection against variolous contagion. If, therefore; as is announced in the title of the work now before us, an easy and certain test of constitutional affection is here pointed out, Mr Bryce must justly be considered as having communicated to the public a very interesting discovery on this truly important subject. But besides this test, from a careful perusal of the work now before us, the attentive reader will derive much useful information in many other points where improvement was still wanting, particularly with respect to the best modes of preserving vaccine matter, and transmitting it in an active state to distant places.

In the work now before us, the ingenious author, who has had very extensive experience in vaccine inoculation, from his having been appointed one of the surgeons for gratuitous inoculation at the Vaccine Institution, which

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has been superadded to the Public Dispensary at Edinburgh, and likewise from his own private practice, arranges his observations under four chapters. In the first of these, he gives a general history of the cow-pox. In the second, he points out the advantages which would result to society from the general practice of inoculation with vaccine matter. The third chapter explains the circumstances which should be carefully attended to by all those conducting the inoculation of cow-pox, that society may reap all the advantages which can result from that operation: And in the fourth and last chapter of this work, the author presents us with his sentiments respecting the medical treatment of cow-pox.

Under each of these general heads, many particulars are comprehended, which are treated of in separate sections; and it may readily be concluded, that many of Mr Bryce's observations are merely a repetition of what has been delivered by Drs Jenner, Pearson, Woodville, and other preceding writers. Without aiming, therefore, at giving a full analysis of every part of Mr Bryce's treatise, we shall confine ourselves principally to those points in which his observations appear to us to be new and interesting.

The virus to be used for inoculation is certainly a subject of the utmost importance, and is a point, with regard to which former writers are by no means altogether agreed. On this subject, Mr Bryce has bestowed a particular section in the third chapter of his work. In this section, he states his opinion with respect to the period at which the vaccine virus is the most active. He observes, that “ during the seventh, eighth and ninth days from inoculation, when the affection has proceeded regularly, the vesicle appears of very considerable magnitude, elevated above the surrounding parts, and having a flat or rather concave surface, with a small crust in the centre. The margin is turgid and pale, giving a very singular appearance, as if a round body, like a worm, were coiled up immediately under the cuticle, and as yet the areola is incomplete. If a puncture be made into the vesicle, in the manner hereafter to be mentioned, while in this stage of its progress, a perfectly transparent fluid exudes. This is the proper virus, and in a state of the greatest activity. About the end of the ninth or beginning of the tenth day from inoculation, the areola is fully formed ; and this is said to be a mark that the virus begins to be less active,

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and therefore improper to be used. It is also said, that virus taken after this period, frequently fails of producing the anti-variolaous process in the constitution, even although the local affection appears to run a regular course.

“ I have inoculated, (says he), and produced the proper affection with virus taken from a vesicle the fourth day from inoculation ; but the quantity of virus to be had at this period is so small, and the risk of disturbing the regular progress of the vesicle from which it is taken, is so great, that, in my opinion, it ought never to be done, especially as, by waiting until the vesicle is in the state described above, abundance of virus may, almost always, be obtained, and much freedom may then be used without fear of impeding the regular progress of the affection.

“ Again, I have inoculated with virus which was taken at the end of the eleventh day from inoculation, and after the areola had been completely formed, and with it have produced the affection regular in all its stages : But I have observed, that the virus, when taken at this stage of the affection, was less certain of taking effect, and that it frequently happened, that although the appearances

ances were favourable for the first three or four days, yet that they would then gradually die away, and no vesicle be produced. At other times, virus of this description has produced a pustule of considerable size, and one having a considerable degree of redness around the base, but which was, nevertheless, easily distinguished from cow-pox. This pustule has an *elevated* centre, which gives it more or less the appearance of a common phlegmon; there is little or no hardness around its base, and the contained fluid quickly runs into suppuration, so as by the sixth day to contain well-formed pus. After this, it quickly dries into an opaque crust, very different from that described as the common termination of the cow-pox vesicle."

With regard to the manner of obtaining the virus, Mr Bryce gives the following directions: "At the proper period in the progress of the affection, as described above, make three or four punctures with the point of a lancet between the central crust and the margin of the vesicle, so as merely to penetrate through the cuticle; then wait for the space of a minute, during which a limpid fluid will be observed to exude from each of the punctures, and to
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form a small drop. This is the proper virus for inoculation, and is to be carefully collected and preserved. By waiting a little longer, more virus will be obtained ; and by going on in this manner, and gently pressing the vesicle occasionally with the side of the lancet, one pustule will be found to yield a very considerable quantity. But I have generally observed, that when an unusually great quantity of matter flows from one vesicle, it is proportionally less active than when the quantity discharged is small.

“ After a sufficient quantity of virus has been obtained, I always desire the surrounding parts to be lightly washed with cold water, in order to clear away any matter which may have been left on them ; and a soft cloth dipped in the same to be applied to the vesicle, to check the farther effusion of the virus.

“ If the discharge of fluid continues notwithstanding this application, a single drop of Goulard’s extract, of the diluted vitriolic acid, or of some other astringent remedy, must be applied in order to restrain it, as there is a danger of the whole contents of the vesicle being discharged as fast as secreted, and thus the absorption and farther regular progress of
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the affection being completely prevented, or of the affection, from this circumstance, degenerating into a troublesome fore.

“ If the virus thus obtained is to be used for inoculation in the space of twelve hours, it may preserve sufficient activity although kept upon a common lancet, especially if the fluid be completely dried, by exposure to the air, before the lancet is put up. If, however, the virus is to be kept beyond that space of time, before using it, I would recommend some other mode of preserving it, because it is wonderful how very soon a common lancet, loaded with cow-pox virus, becomes rusty, and the virus of course decomposed ; in which state, if the operation be performed, it will certainly prove unsuccessful, and bring disappointment to all concerned. This caution is the more necessary, as although the inoculation, when performed with matter thus decomposed, will certainly fail of producing the desired effect ; yet a considerable degree of inflammation will be occasioned by the rusty lancet, and acrid matter, which may cause a doubt for some days concerning the nature of the affection produced ; or, if the inoculated part inflames and advances to a state of sup-
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puration, as frequently happens, it may be mistaken by those who are little accustomed to observe the regular progress of cow-pox, for a properly formed vesicle."

Various are the modes which have been adopted by different practitioners, and recommended as the most convenient for preserving the vaccine virus in an active state. The following method, Mr Bryce tells he has found, after a fair trial of different modes, to be the most convenient, and the most successful. "The virus, when taken from the vesicle, is to be put upon a small piece of plain glass, and, by exposure to an atmosphere of a moderately warm temperature, allowed to become quite dry; another piece of glass of the same size is then to be put over this, and the whole is then to be wrapped up firmly in a piece of tinfoil, of gold-beater's leaf, or of bladder damped with water, so as to exclude the air as completely as possible. This forms a neat thin package, which may be conveniently sent in a letter to any distance, and in this way the virus may be preserved for some months in a very active state."

"Another mode, and that which I have generally followed, is to have a small phial made

made for the purpose, having a long stopper which reaches nearly to the bottom. This stopper is ground at the upper part, so as to fit the mouth of the phial as exactly as possible ; and that part of it which is within the phial is formed into square surfaces, which are numbered. Upon these squares the virus is lodged ; and, when dry, is, with the stopper, put into the phial, where it is very completely secured from the action of the external air. In this way I have hitherto found the virus keep so well, that I think my success in inoculating, is more certain when done with virus which has been preserved in this manner, even for a week, than when done with it as taken immediately from the vesicle.

“ Some have thought it advisable to fill the phial, in which the virus is to be put, with a particular kind of air, *hydrogen gas*, in order to prevent any fermentation, and consequent decomposition of that fluid ; but if care be taken to allow the matter to become perfectly dry before the stopper is thrust into the phial, there will be very little risk of any such process taking place, at least for a very considerable time.

“ The virus may also be preserved upon a quill, or upon a piece of cotton thread, both of which are, when dry, to be carefully secluded from the air, in any manner which may appear most convenient and effectual.”

These modes, though here stated perhaps in a more explicit and distinct manner than in any former publication with which we are acquainted, cannot indeed be considered as new. But he has given an account of another mode, which we have not observed mentioned by any preceding writer, and which we think has a particular claim to the attentive consideration of every practitioner, and well deserves to be determined by the test of future experience. “ There is yet another way,” says he, “ which I have lately discovered, by which the virus of cow-pox may be obtained and preserved in an active state, and fit for inoculation, which, at the same time that it is more convenient, promises also, from the trials which I have made, to be fully as successful as any of those which have been mentioned. It is by preserving the crusts which are formed from the inoculated vesicles of cow-pox, dissolving a portion of these in water, and using this solution for inoculation

culatation in the manner afterwards to be mentioned.

“ At first it appeared to me that this mode of giving the cow-pox might be liable to the same objections as are made to performing inoculation with virus taken from the vesicle at an advanced period of the affection. An attentive observation, however, of all the circumstances which take place in the topical affection during the latter stages of cow-pox, and of the conversion of the inoculated vesicles into the semi-transparent crusts, has served to convince me that my fears on this point were groundless.

“ It has been observed by authors, that, the fluid contained in the vesicle, in the advanced stages of cow-pox, has undergone a certain change, whereby it is rendered unfit for propagating the affection, so as to give security from the small-pox ; and this change is said to be marked by the puriform appearance which the fluid then assumes. The proper explanation of this appears to me to be as follows :

“ Very soon after the cow-pox vesicle has attained its greatest magnitude, which is about the tenth day, the limpid fluid is entirely

converted into the semi-transparent hard crust; but the parts underneath this being still very tender, as soon as the peculiar inflammation, from cow-pox is gone, inflammation is frequently renewed in a different way, viz. by the irritation of the crust; and this soon terminates in the production of well formed pus. This circumstance I have frequently observed, and was at first not a little surprised to find a new areola formed very soon after the proper one had disappeared. On examination, however, I found that the inflammation in these cases was merely superficial, and that, on pressing the crust, pure pus was evacuated from underneath. I have also frequently observed a complete ring of pus around the properly formed crust about the twelfth day, which appeared to have been produced in the manner above mentioned, while the crust itself retained its peculiar character unaltered. From the above explanation of the formation of purulent matter in the latter stages of the affection of cow-pox, the cause of the frequent failure to produce that affection with matter taken at these periods is obvious; for although some inflammation may be produced thereby for a few days, yet this
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cannot be expected to give security from small-pox.

“ With regard to the formation of the crusts ; attention to the progress of the affection will show that a small vesicle is formed about the fourth day, and that on the fifth or sixth day a crust is formed in the centre of this vesicle, which can be nothing else than the limpid fluid concreted. By degrees, the size of the vesicle increases, more cells are formed, and more fluid effused into them ; and in proportion as this takes place at the margin of the vesicle, the size of the central crust is also increased. The central crust, therefore, is not formed from a fluid which has been in a stagnant state during the whole course of the affection, and which might be supposed on this account to have undergone some change, or to have been converted into the state of purulent matter, unfit for propagating the affection ; but, on the contrary, is formed from the most active virus secreted from the fourth day, until the time of the vesicle having attained its greatest size ; for this virus is every hour hardening into these crusts, in which state it seems incapable of further change, at least for a very considerable time.

“These observations concerning the frequent termination of the topical affection of cow-pox, and the conversion of the vesicles into crusts, while they account for the frequent failure in communicating the affection by inoculation with the fluid found after the affection is on the decline, and for the puriform appearance of this fluid at that time, also confirm an opinion, that the crust is the real extractive matter, if it may be so called, of the most pure and active virus, secreted into the cells of the vesicle. If this explanation be admitted, it will readily be granted that, by dissolving these crusts in water, thus restoring what they had lost by exsiccation, and using this solution for inoculation, we obtain a virus in a pure and active state, and well suited for the propagation of the affection whereby itself was produced. That this is so in fact, I am enabled to state from the success of a great number of trials which I have made with virus of this description; and I can safely declare, that by inoculation performed with such virus, I have produced the affection with as great certainty and regularity in every respect, as with virus newly taken and used in the common way.

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“ The very first crust which I used in this way for inoculation had been kept for a whole month, no otherwise excluded from the action of the air than by being loosely wrapped in a small piece of paper ; yet four inoculations performed with it, on four different persons, took effect, and advanced as regularly as four other inoculations performed at the same time, and on the same persons, with recent virus.

“ I have since inoculated a great many persons with virus obtained from many different crusts, some of which had been kept for two months ; and my success in producing the regular affection has been as great as by using virus which was obtained fluid from the vesicle.

“ I must here observe, that it was not the appearance alone of the affection produced by the virus obtained from the crusts, that was trusted as a sufficient mark of the anti-various process in the constitution : Many of the persons thus inoculated were afterwards inoculated with the virus of small-pox, and were found completely unsusceptible of that disease.

“ Some caution, however, is necessary in choosing crusts for inoculation, in order to insure

sure success equal to what I have experienced from the use of them. In the *first* place, it is absolutely necessary to ascertain that the topical affection, whereby they were produced, had been regular; and, *secondly*, that the crust to be used is really that formed from the vesicle. This is the more necessary to be attended to, as we frequently find that the proper crust, from being surrounded with purulent matter, or other causes, falls off at an unusually early period, and it then happens that another is quickly formed, but with qualities very different from those possessed by that which preceded it. Without attending to this circumstance, one of these might readily be mistaken for the other, and much disappointment be thus produced, more especially as the second crust will also be found transparent from being formed of a serous fluid. It is those crusts only which can be ascertained to have been formed from the vesicle after it has run through a regular course, and which, when separated from the part, are found, on examining them between the eye and a strong light, to be nearly transparent, which I would recommend ever to be used for inoculation. The best mode of preserving these crusts ap-
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pears to me to be by putting them into a small phial with a well-ground glass-stopper, as soon as they fall off, and thus secluding them as much as possible from the action of the air. The particular manner of using them is much the same with that of using virus which has been dried upon glass, &c. and will be afterwards mentioned.

“ Should this mode of collecting and preserving the virus of cow-pox be found equally successful for inoculation in the hands of others as it has proved in mine, another important fact will be added to the practice of cow-pox inoculation ; as it will afford, in the first place, an easy way of obtaining virus in those cases where attendance cannot be given to take it at the periods recommended as the most proper, and from which circumstance the inoculation for cow-pox has in many instances been suspended, and the small-pox allowed again to commit its depredations. It will, in the second place, afford an ample source of virus, as one crust will afford enough of it to inoculate many persons ; and, in the third place, it appears to me that the virus, in the form of crust, will be better fitted for keeping in an active state than in any other way which has been recommended ; and certainly it may,
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in this way, be very easily transported to any distance."

After a number of careful trials, of different modes, of inserting the virus, Mr Bryce gives the following directions, as what appeared to him to be the best. "When the person to be inoculated is in the same room, or even in the neighbourhood of the one from whom the virus is taken, I use a common lancet.

"I take the virus from the vesicle in the manner mentioned, and with the point of a pin, or of another lancet, take care that it is kept completely to the point of the instrument, until such time as it becomes glutinous, or of such a consistence as not easily to be wiped off. Thus armed, I introduce the lancet at the place determined on for inoculation, about the eight part of an inch, merely under the cuticle, and retain it there for a few seconds. When the lancet is withdrawn, I wipe it, as it were, by pressing upon the parts underneath, whereby the viscid virus is separated from the side of the instrument, and very certainly lodged in the wound.

"In several instances where a small piece of adhesive plaster was applied over the part inoculated, and allowed to remain for two days,

days, a degree of ulceration was uniformly produced, and the virus seemed to be entirely thrown out of the wound, as no vesicle was afterwards formed. In consequence of this, I now never make any application to the part after the operation, but recommend it to be freely exposed to the air until the hæmorrhage stops, and then I allow the part to be covered, or remain exposed, as it had been before.

“ In children, whose skin is of a delicate texture, I have frequently observed a very considerable degree of redness extending in a circle around the punctured part, in the space of two or three minutes after the inoculation had been performed. This appearance exactly resembles the inflamed spot formed around the part which has been stung by a bee, and, according to my observations, indicates certain success from the operation,

“ When about to inoculate with virus which has been preserved for some time, whether in the usual way or in the form of crusts as above-mentioned, it is necessary to reduce it again to a semifluid or viscid state. For this purpose, the smallest drop of water is to be put upon the dried matter, and carefully incorporated with it, until the whole becomes one uniform

form mass. It may be necessary to add here, that when the crusts are to be used for inoculation, a small bit only, such as may be reckoned sufficient to supply matter for the number to be inoculated, should be dissolved at a time, and the remainder still preserved in the dry state. Unless this be attended to, some change may be produced by the frequent solution and exsiccation performed, before the whole crust be expended, which will diminish the efficacy of the virus. The portion of crust to be used will be found most easily reduced into a proper state for inoculation, by allowing it to remain, upon a small piece of glass, for a few minutes covered with a single drop of water. When it is somewhat softened by this means, it is then to be bruised and reduced into an uniform mass with any convenient instrument, as the flat side of a knife or shoulder of a lancet. It will be observed, that the mass, which is thus formed, assumes a white appearance, as if mixed with pus. This appearance, however, I apprehend, is rather to be attributed to the presence of that portion of cellular membrane which formed the cells of the vesicle, than to any real admixture of purulent matter. A little of the matter thus prepared is to be put upon the
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point of the lancet, and kept there until it becomes again so viscid as not easily to be rubbed off. The operation is then to be conducted in the same manner as when using virus taken immediately from the vesicle.

“ When the virus is preserved upon a piece of thread, as is frequently done, a slight incision is made in the part fixed on for the inoculation, and a small piece of the thread is put directly into it, and secured there by means of a slip of adhesive plaster. This is a mode of inoculating for cow-pox which I conceive to be very uncertain, on account, as has already been observed, of the great propensity in the part to ulcerate, especially when covered with adhesive plaster.

“ In performing cow-pox inoculation, I seldom make more than one puncture, preferring rather to repeat the operation in the course of a few days than to double the severity of the ailment. In cases, however, where the accession of small-pox may be dreaded, from exposure to the contagion of that disease, two punctures, in order to give a greater probability of the inoculation taking place, may perhaps be made with advantage, but it ought always to be a rule to make them at such a distance
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from each other as that the areola of each, when fully formed, may be quite distinct and separate.

“ After the virus has been inserted, I have known it to lie in the parts for fourteen days, without giving any appearance of having taken effect ; and yet, after this period, the affection has advanced regularly through all its stages, without any new inoculation having been performed. Such cases, however, are always to be considered as uncommon, and their progress must be very narrowly watched.”

In order to ascertain the regular course of the local affection, the author thinks it necessary, that the progress should be examined at four stated periods. “ The first of these periods is about the end of the third, or beginning of the fourth day from the time at which the inoculation was performed, when a small inflamed spot may be observed at the part where the virus was inserted, which, on passing the finger over it, is found to be elevated and hard.

“ The next period is about the end of the seventh day. At this time the vesicle is of considerable magnitude, of a circular or oblong figure,

figure, according to circumstances, having a turgid well-defined margin, and a considerable depression in the centre, where a small crust is formed, appearing to fix the central part to the parts underneath. The less redness and hardness around the base of the vesicle until after this period, the more truly is it characteristic of the regular cow-pox affection.

“ The third period at which it is necessary to examine the progress of the cow-pox affection, in order to form a judgment of its regularity, is about the end of the tenth day. At this time the vesicle has attained its greatest magnitude, the central crust is much enlarged, and the margin of the vesicle appears very turgid, and divided into minute cells or vesicles, containing a watery or transparent fluid. The surrounding inflammation is now very considerable, and extends in a circle of from half an inch to one inch and a half in diameter. Close upon the vesicle, this inflammation is very deep coloured, approaching to livid, and the parts underneath feel very hard and tense. At this time, also, some hardness and

swelling of the glands in the armpit is generally perceptible.

“The fourth period for the examination of the cow-pox affection is about the end of the thirteenth day; then the surrounding inflammation has entirely disappeared, and the part where it was, has a dingy yellowish appearance. The hardness which was felt around the vesicle at the last examination is also entirely gone, and the whole of the vesicle, with its contents, is formed into a hard crust or scab.”

Concerning the general or constitutional affection, Mr Bryce has also presented his readers with several interesting remarks. At a very early period in the practice of vaccination, “Dr Jenner has declared, that it is only those who have undergone the constitutional, as well as the local affection of cow-pox, who are rendered unsusceptible of small-pox by the new inoculation. It becomes, therefore, a circumstance of the very first importance, in conducting the inoculation for cow-pox, to be able to ascertain the presence of the constitutional affection. In many cases, this, by a little attention, is easily accomplished; for soon after the areola begins to be formed,
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that is about the eighth day, the person becomes hot and feverish, and continues so for one or two days, and this feverish state is more or less plainly marked according to circumstances. In other cases, however, and these, according to the accounts given by authors, by far the most numerous, no fever can be detected; and no other symptom, independent of the appearances of the local affection, which we shall afterwards find may be deceitful, has been mentioned, whereby we may judge concerning the presence of the antivariolous process in the constitution. In children, who are the most frequent subjects of cow-pox inoculation, this absence of fever has been particularly noticed, it being remarked, that by far the greater number of them pass through all the stages of cow-pox without any sickness being observed.

“ If the local affection of cow-pox has proceeded regularly through all its different stages, and if each stage has been clearly and distinctly marked, we think ourselves authorised, from the united testimony of many eminent in the medical profession, to conclude, that the general affection, and, consequently, the antivariolous process, has taken

place in the constitution, even although no fever may have been detected. But in many instances these different stages are not regular, neither are they distinctly marked; and how far these irregularities may take place, without frustrating the purpose of the inoculation, and what may be the exact degree of the size of the vesicle, or of the surrounding inflammation and hardness, which is to mark a constitutional affection, or to assure us that the antivariolous process has been accomplished, we must confess we have no certain rule to determine. On this point, then, assuredly the most important to be ascertained in the progress of the symptoms of cow-pox, every person is left to form his opinion from a comparison in his own mind of the case under consideration with what he may have read in the writings of authors, or with what he may have observed in other cases which, to his own knowledge, had proved effectual. But it will be allowed, that a judgment thus formed must often be very inaccurate, and thus bring disappointment, or worse, to all concerned, as well as discredit upon the new inoculation.

“ Again, it frequently happens in the inoculation for small-pox, that the part inoculated
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inflames, and a pustule comes to be produced which contains virus in a pure and active state, capable of exciting the disease in others, without the person himself undergoing the constitutional disease of small-pox ; or being, by the presence of this pustule on his body, rendered unfusceptible of variolous contagion at a future period.”

Mr Bryce thinks that many similar cases have occurred, and may still occur in cow-pox ; and he adduces several in which this seems to have really happened, as the persons were afterwards infected with the small-pox. After relating the circumstances of these, he adds, “that although they may at first sight appear adverse to the opinion entertained concerning the antivariolous power of cow-pox, and to the practice of the new inoculation, as a substitute for the small-pox ; yet, on a serious consideration of the subject, they certainly do not warrant such inferences.

“ It has been ascertained beyond a doubt, and promulgated on the authority of the first medical men in the world, that when the human constitution has undergone the specific action excited by the virus of cow-pox, the person is afterwards secure against all future

attacks from small-pox. This fact, as a general rule, both Dr Farquharson and myself (and all others who have witnessed the antivariolous powers of cow-pox, even in a few instances), are bound to believe; for our investigations on this subject have afforded, as has already been observed, many and satisfactory proofs, in other cases, of the efficacy of cow-pox as a sure preventive of small-pox. Thus, besides those who have been inoculated by us with the virus of the small-pox, after having undergone the cow-pox, and who have been thus proved to be uninfected of that disease, we have often found, that children, who had been inoculated for the cow-pox, have eat, slept, and been constantly with those infected with the small-pox in all the stages of this disease, and often in its very worst form, yet have remained completely insensible to its attacks. If, then, it should unfortunately happen, that the cow-pox affection in some few instances, although it may have been apparently regular in the progress of the local affection, be not attended with the desired and usual effect, are we, from such instances, entirely to discredit the antivariolous power which is generally imparted to the constitution

constitution by the inoculation of cow-pox? Certainly not; such instances should be regarded only as pointing out to us the necessity of investigating those causes which may thus operate in producing exceptions to the general rule, in order that they may be obviated.

“ It is well known, that the human constitution will resist the contagion of small-pox at one time, even although the person has not formerly been affected by that disease, and at another time suffer severely from its attacks. Similar causes may exist in the constitution, and render a person unsusceptible for a time of the particular action of cow-pox; and these causes, or others, may so act as to render the inoculation of cow-pox, though, with regard to the local inflammation, it may appear perfectly regular, merely a local affection. Instances of this kind have already been detailed above; and it is thought that inattention to this circumstance, viz. that the action of the virus of cow-pox may be often merely local, has been a fruitful source of error and disappointment in conducting the new inoculation. These instances of the mere local action of the virus of cow-pox, which

have been mistaken for the regular constitutional affection, very forcibly point out a desideratum, viz. *a test of a constitutional affection*, in conducting the inoculation of cow-pox."

With regard to such a test, Mr Bryce says, "From the very first time that I had occasion to conduct the inoculation for cow-pox, the uncertainty of the desired change being operated upon the constitution, partly from the apparent slightness of the local ailment, but chiefly from a want of some well-defined mark whereby to judge of a general affection, very forcibly presented itself to my mind; and after having carefully attended to upwards of six hundred cases which have fallen under my immediate care, I am thoroughly convinced, that some clear and well-defined mark of a constitutional affection in cow-pox, different from what has hitherto been observed by those who have written on this subject, is still to be regarded as the grand desideratum in conducting this new inoculation: for until this be established, our judgment of the efficacy of the cow-pox inoculation in preventing small-pox must often be formed with doubt and anxiety, and too frequently prove ultimately erroneous. The truth of these re-

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marks will be best known to those most conversant with the cow-pox inoculation, and who are accustomed to observe the great variety of appearances which the local ailment often assumes.

“ For some time after the introduction of the cow-pox inoculation into medical practice, many cases were related in which an eruption of pustules, more or less numerous, was said to take place, similar to what happens in small-pox. While these reports were propagated, and certified by men who seemed worthy of credit, even although no instance of the kind had come under my own observation, I entertained hopes of so conducting the new inoculation in every case as to obtain a certain and well-defined mark of a constitutional affection; for if an eruption of pustules belonged to cow-pox in any case, as a consequence of the peculiar fever or constitutional ailment thereby induced, I thought that one or two pustules might be made to appear in every case. It is well known, that, by irritating any part of the skin by the application of heat, of a stimulating plaster, or various other substances, we can produce a greater number of pustules in small-pox upon that particular

particular part than would otherwise have appeared ; and, judging from analogy, I expected that the same thing might have been effected in cow-pox. Such trials I have made ; and although they were conducted with as much anxiety and care to produce pustules, as other persons seem to have taken to avoid producing them, yet they have constantly failed ; nay, these trials have now been made under such a variety of circumstances without effect, as to confirm me in the opinion, that an eruption of pustules, as a consequence of a constitutional affection, does not belong to cow-pox.

“ Foiled in my attempts, so to conduct the inoculation of cow-pox as to produce pustules, I recollected some experiments which had been made with regard to the inoculation of small-pox. It was found, that if the same person was inoculated every day until the fever induced by the first inoculation supervened, all the other punctures quickly advanced in their progress ; and that, in the course of a day from the time the fever or general affection began, even that puncture which had been last made, perhaps only twenty-four hours before, equalled in inaturity the one first

first made, perhaps eight or nine days before, and from which the fever had arisen.

“ In this case, it appears to me evident, and I think must be admitted by every person, that even had no other pustules appeared on the body than those occasioned by the repeated inoculations, nay, had there even been no fever observed in consequence of the inoculation, yet as the pustule occasioned by the last puncture had been suddenly accelerated in its progress to maturation, at the time the general or constitutional affection should have appeared, this alone was a sufficient proof of the variolous action in the system.

“ Judging again from analogy, I expected that the same thing, which thus happened in the small-pox inoculation, might also take place in that for the cow-pox ; and the unexpected appearance of one or two vesicles upon children that I had inoculated, which vesicles were quite characteristic of the ailment, and the appearance of which I could only account for from a second and accidental inoculation during the course of the disease, strengthened my hopes. And certainly, if we find in cow-pox, where the inflamed and hard areola does not take place, at least in the regular course
of

of that affection, until the end of the seventh or beginning of the eighth day from inoculation, that a second inoculation, performed, for example, at the end of the fifth or beginning of the sixth day, is so much accelerated in its progress, about the time the general affection of the system usually takes place, as to have an areola formed within a few hours, or very shortly after the first, and that this areola increases with the first, and again fades at nearly the same time, we must be struck with the similarity, and forcibly led to draw the same conclusion in the one case as the other, viz. that although the inoculated affection had appeared very slight, and no fever had been observed, yet that a certain action had been excited in the constitution. That this was the true constitutional affection of cow-pox, may be judged by the acceleration of the second vesicle to a state of maturity, five days before this could have happened, had there been no consentaneous general action or change in the system.

“ The truth of this opinion was also soon put to the test of experience ; and I have now much satisfaction in declaring, that the result
appears

appears to answer my most sanguine expectations.”

Having thus stated the grounds on which he was led to this new test of a constitutional affection in cases of the vaccina, he lays before the reader a particular relation of fourteen different cases in which this test was employed; and he concludes his relation with observing, that “from these, and a great many other cases in which the second inoculation was performed at different periods of the primary affection, it is concluded, that the most proper time for performing the second inoculation is about the end of the fifth or beginning of the sixth day from the first inoculation. If the second inoculation be delayed beyond the sixth day, the affection produced by it will be very indistinct, and of short duration; and, if performed at an earlier period than the fifth day, the contrast between the progress of the two affections, with regard to duration, will not be so great as may be thought necessary.

“These observations, however, are applicable to those cases only in which the first inoculation advances by a perfectly regular course, and in which the areola begins to form

form about the end of the seventh or beginning of the eighth day ; for in those cases in which the first inoculation is, from certain causes, accelerated or retarded one or two days, as frequently happens, then the second inoculation should be performed at a more early or late period accordingly.

“ In short, my observations on this point lead me to conclude, that, in order to obtain the proposed criterion in the greatest perfection, the second inoculation should be performed between thirty-six and forty-eight hours before the areola of the first inoculation begins to appear. This is necessary, in order that the secondary affection may have proceeded some length, and that a small vesicle containing virus may have been formed by it, before the constitutional action from the first inoculation begins, otherwise no areola, but merely a slight degree of hardness, will take place from the second puncture.

“ As, on the one hand, the acceleration of the second inoculation in the manner above mentioned, is to be regarded as a certain mark of a constitutional affection in cow-pox, so, on other, if it shall be found that no such acceleration takes place, but that the second inoculation

lation proceeds through all the stages, and has the duration of a primary affection, it is to be concluded, that no constitutional action has taken place from the first insertion of the virus ; and when this is the case, the second inoculation must be regarded as a primary affection, and a third puncture be made according to the plan laid down for conducting the second inoculation ; and thus we may go on until the proper test be obtained, or until we be satisfied that the constitution completely resists the action of cow-pox."

On the subject of this test, he concludes his remarks by observing, " I have thus described a mode of obtaining such a test of a constitutional affection in cow-pox, as, I trust, will be found effectual : and it is hoped that this description has been given in such a manner as both to induce and enable others to follow the plan proposed. The grounds upon which the criterion itself is founded, the ease with which it may at all times be put in practice, the success with which it has hitherto been attended, and, above all, the satisfaction arising from being assured of the important point it is meant to ascertain, will insure it farther trials ; of the success of which I can

at present see no reasonable cause of doubt. It is, therefore, to be wished, that this criterion may soon be generally practised as an improvement of much importance in conducting the inoculation of cow-pox, as at once giving confidence in the extent of the ailment, and precluding all necessity for inoculation with the virus of small-pox afterwards."

To remove, as far as possible, all ambiguity with regard to this test, Mr Bryce has given two plates, which exhibit a view of the first and second inoculation, at different periods of the affection. From a careful examination of these, other practitioners, who put this criterion to the test of experiment, will be convinced of the accuracy of Mr Bryce's observations, and of the merit of this discovery.

In the fourth and last chapter of this work, which Mr Bryce dedicates to the medical treatment of the cow-pox, he lays down two indications, as chiefly claiming the attention of the practitioner. The first is, to prevent any irregularity in the course of the local affection, and the second, to moderate the symptoms both in the local and in the constitutional affection, if these should prove more severe than is necessary.

With

With the view of fulfilling the first of these indications, it is, he observes, necessary to prevent the vesicle from being broken by the friction of the clothes, or by pricking it in an improper manner. But if, from the want of proper attention, a practitioner should find the vesicle already broken, and discharging its contents, Mr Bryce advises that a single drop of the diluted vitriolic acid, or of the solution of acetite of lead be put upon it, at the part where it is broken by means of the point of a probe, and that it be suffered to remain for one or two minutes ; after which he advises the application of cloths dipt in cold water. By these means, the discharge, he tells us, will be stopped, and the course of the affection will again become regular.

For fulfilling the second indication, viz. moderating the symptoms either of the local or constitutional affection, if these should prove more severe than is necessary, what he chiefly recommends, is strict observance of the antiphlogistic regimen. And with respect to the propriety of this regimen, there can be no doubt. For it is perhaps still more useful in preventing distressing occurrences, than in removing them after they have taken place.

When any of those symptoms occur in cow-pox, which are known to threaten epileptic accessions in the natural small-pox, such as disturbed sleep, dreaming or frequent starting, Mr Bryce, as the best method of removing them, recommends that proper attention should be paid to the state of the bowels, and that the patient should be kept perfectly quiet, but at the same time freely exposed to cool air.

SEC.

SECTION II.

MEDICAL OBSERVATIONS.

I.

Observations on Bilious Disorders, extracted from a letter dated from the river Ganges, in September 1770, to a Friend. By John Sherwen, M. D. formerly Surgeon in the service of the Honourable East India Company, now Physician at Enfield. Continued from our last Volume.

IN the Annals of Medicine for 1801, we presented to our readers the first part of Dr Sherwen's letter, in which he treats chiefly of the causes by which bilious disorders are chiefly produced in warm climates, particularly in Bengal, and from thence points out the means

by which they are to be most effectually prevented. We could not, however, in that volume, insert the whole of that important letter. We now, therefore, as we formerly announced, insert in the present volume the continuation of Dr Sherwen's letter, which consists principally of observations on the practices which are to be employed for combating bilious complaints after they have occurred.

BEFORE I offer any observations concerning the cure of bilious disorders, you will, I suppose, expect me to say something concerning the Proximate Cause. I wish I could say any thing upon the subject, that would afford you either instruction or amusement. But I confess myself to have been always puzzled with the term. From what I understand of the general acceptation of the term, it implies the disorder itself. If you will be pleased to take it in that sense, I shall endeavour to say something concerning it.

In all bilious disorders, the secreting vessels of the liver are thrown into an excited state, from the action of some powerful stimulus, which specifically affects that organ; or, if
you

you please, from the action of a proximate cause, the particular nature of which is beyond the reach of our investigation.

I hope, then, you will be satisfied, when I say that the proximate cause of bilious disorders, in general, is, an excited state of the liver: Which excited state is sometimes attended with fever; sometimes with vomiting and purging; and not unfrequently by all three at the same time; and that upon the presence of some one or other of these different circumstances, depends the variety of bilious disorders. In all of them the liver is primarily affected; and, in short, we may say, that every bilious disorder is an effort of nature to throw off bile from the system. Hence the same preventive means will be found necessary in guarding against each of them; and hence those means will consist in such a regulation of diet, air, exercise, and passions of the mind, as we find, by experience, contributes to prevent a preternatural generation and accumulation of those exalted principles in the blood, which go to the formation of this fluid.

Though the general means of preventing bilious disorders will be the same, yet the me-

thod of cure will vary according to the different symptoms and appearances of each.

I have had little success in administering remedies for the dysentery; I will therefore begin with the

Bilious remitting Fever,

which I have treated with much more pleasure and satisfaction. But as I generally followed Dr Lind's practice, I cannot have many observations to give you, further than to inform you that I experienced it to be efficacious.

The type of the fever on shore, is generally continued, putrid, and mortal; but upon the river, much more favourable; for here the remissions are often very regular, and the disorder in general yields to tartar emetic, neutral salts, plentiful draughts of hock and water, or of weak tamarind punch, or of lemonade, with glysters, opium, and the Peruvian bark.

Several disagreeable symptoms occur in this disorder. I was myself very sensible of one of them, which began like a severe fit of the heartburn; and at last increased to so intolerable a degree, that I can compare it to nothing

thing that will give you an adequate idea of it, unless you can imagine to yourself the sensations that a man must feel if he had a cannon-ball in his stomach, heated to a degree nearly equal to that of boiling water; and this was attended with a confused sensation in the head, which felt as if girt with a rope, or inclosed in a box, and squeezed by some mechanical engine. I suppose this disagreeable symptom was occasioned by a large quantity of bile in the stomach, as it did not yield to any absorbent medicine, but was removed upon evacuating bile, by the use of tartar emetic.

Another symptom which caused the most excessive restlessness and anxiety that I had ever seen, was a tension of the abdomen, which appeared as if puffed up with wind. This symptom appeared to be occasioned twice in the case of our second officer, by administering a dose of manna and cream of tartar, which failed both times in opening the body. Glauber's salts, too, produced the same symptoms in some cases where it failed in procuring a motion to stool. In all, it was speedily removed by the use of an emollient purging glyster.

It is undoubtedly good practice to clear the *primæ viæ* from their bilious contents ; but I think that all strong irritating emetics ought to be avoided ; for whilst the liver is acted upon by the peculiar stimulus of the disorder, they must increase its irritability by the heat and agitation which they occasion. And hence the liver may be irritated to continue secreting bile, very copiously, much longer than it would have done had the patient been resigned wholly to the superintendence of nature. Thus, emetics may sometimes produce that very effect which they are given to remove.

This was particularly instanced in the case of Mr Weller, a young gentleman of a robust constitution. He took emetics at the beginning of his disorder, agreeably to the general practice, and had his body kept open with infusion of senna, manna, &c. By the use of these, much bile was evacuated ; and though the remissions were scarcely perceptible, yet I ventured to exhibit the bark upon the authority of Dr Badenach's successful practice at Johanna, as mentioned by Dr Lind in his dissertation on this fever*. I did not, however,

* “ *Et si cortex in febribus regionum frigidarum nimis cito datus adeo febrem non cohibet, sed etiam ægrum*

ever, in this case, experience the same good effects from the use of it; for after he had taken about an ounce of that medicine in substance, the febrile symptoms seemed to be greatly exasperated. The anxiety, nausea, and sickness returned; and his mouth was filled with a bilious matter at every eructation. The bark was therefore laid aside, and I gave him two grains of tartar emetic, dissolved in water. In a few minutes it began to operate, and he continued to vomit almost incessantly

grum in summum periculum adducit, hoc fit quod iis febribus conjuncta sit diathesis inflammatoria: citius autem vim corticis respuentibus eam ingerere in febribus regionum calidarum licet; quippe hic adest diathesis putrida illi inflammatoriæ opposita vim antisepticam corticis protinus exposcens; et tuto simul ac utilissime adhibitum fuisse, usus et experientia plurima jam docuit. Hoc etiam magis Dr Badenach haud ita pridem confirmavit; qui comperit posse se, sine periculo, quovis tempore morbi, vel etiam in paroxysmo, corticem admove-
re, in putrida ista febre in quam impliciti erant ad Johannam in Nottinghamia nave Indica simul vesti. Corticem, ancipiti eo statu, exhibere impulsus est; eo quod remissiones parum distinctæ apparerent, quodque morbus esset maxime funestus; adeo vere prospere cessere illius conamina, ut postea ne unum quidem ægrum amitteret.”

Dissert. Medica Inaug. auctore LIND. p. 43.

incessantly for twenty-four hours. Had I not attended him during the whole time, and, consequently, been an eye-witness, I should have thought it impossible for a man to have survived such a struggle. The first evacuations resembled the grounds of coffee, and seemed to be a mixture of putrid bile with bark. After this, he evacuated pure yellow bile to an astonishing quantity. As his strength and spirits kept up very well, I did not attempt to give any thing to check the vomiting, but supplied him constantly, after every time of straining, with a large glass of cold water and old hock, or weak tamarind punch. With the vomiting, the fever gradually left him; and his strength was afterwards restored by proper diet and the use of the bark. The emetic was given about six o'clock in the evening; and though he vomited bile almost every ten minutes during the whole night, yet, about the middle of the next day, his skin grew quite yellow, and the yellowness continued to increase at the very time that he was vomiting liquors deeply tinged with bile.

The natives are in general free from this disorder, except in the most unhealthy seasons, when it appears more like an intermittent;

tent ; which they cure by a sedulous abstinence. Till an inclination for food returns, they indulge their sick with little or nothing but a pot of cold water, which is placed near them ; and they are left to the care of nature and this excellent medicine. How happy might many a patient in England think himself, if he was treated in the same manner ! They are permitted to drink the cold water *ad libitum* ; and when they are by this regimen much reduced, and the fever abated, their physicians administer a powder, of which I gained no other information than that it was extremely nauseous and bitter*.

In imitation of this practice, I confined some to large draughts of very weak tamarind punch well acidulated, which they generally swallowed with great eagerness and satisfaction. It seemed to be very useful in determining the bilious matter to pass off from the intestines by stool, and I believe had a good effect in correcting its putrid tendency.

The fevers which I attended on the river were all of the bilious remitting kind ; and I
had

* This powder was probably the columbo root, which is held in high esteem in the East Indies.

had not an opportunity of attending one case where there was that putrid diathesis which is so much mentioned as attending this fever ; but I heard much of it from the gentlemen who attended on shore in Calcutta, where it was fatal.

In general I experienced these to be the indications of cure.

I. To evacuate the bilious matter from the stomach and intestines, by proper emetics and purgatives, viz. warm water, tartar-emetic, infusion of fenna, tamarinds, and neutral salts.

II. The bile being evacuated, to remove the fever by means of small doses of emetic tartar, large draughts of the saline mixture, anodynes, and the Peruvian bark.

III. To attend during the disorder to the most urgent symptoms.

Before I conclude what I have to say to you upon this fever, I must not forget to mention an odd circumstance which often attended it, and which may possibly furnish an useful hint.

During the febrile delirium, the patient had often a strong inclination to leap into the river*. It was with much difficulty that I prevented

* I have been informed of several being lost by this means.

two of my patients from taking this fatal step ; and I have a confused remembrance of a longing inclination which I myself had when in this situation to get into the river. Very fortunately for me, I was too weak to get out of my cot ; but I can remember, I thought I should be perfectly easy if I could but leap from the cabin-windows into the water.

Would you indulge a patient with immersion in cold water * in this situation ?

Had the gentlemen who attended me proposed it, I should have thought myself in Heaven. But they must be bold physicians who will run the hazard of being upbraided with occasioning the death of a fellow-creature.

Bilious Flux, or Dysentery.

I have had such bad success hitherto in the treatment of this disorder, that all I can say to you upon it, will be little more than a detail of the inefficacy of the medicines which are usually prescribed. There is scarcely a sea-
man

* See an ingenious hint of this kind in the Medical Essays lately published by Dr Armstrong.

We need not observe, that the benefit of cold water in fevers is now fully confirmed by the observations of Dr Currie of Liverpool.

man at this present time in the ship, but who is more or less afflicted with this disorder. I try all that lies in my power to prevent them from eating beef and mutton. But sailors are not easily to be managed; if they can procure it, they will eat what they please, and get drunk when they can.

My indications of cure were as follow :

I. To evacuate the bilious matter from the stomach and intestinal tube.

II. To alleviate painful symptoms.

III. To strengthen the retentive faculty of the intestines.

To answer these different indications, I am continuing to prescribe emetics, rhubarb and small and repeated doses of ipecacuanha, as directed by Dr Akenfide in his Dissertation on the Dysentery. I have not the vitrum antimonii ceratum by me, nor am I solicitous to procure it, as it seems to be a doubtful remedy : It can surely have no other effects but what must result from its retaining part of its emetic quality. If it should occasion nausea, and, by determining the humours to the surface of the body, bring on a diaphoresis, it may certainly have some power to check the too rapid peristaltic motion of the bowels, and may thus become useful. But then this is
only

only the action of every common emetic, the doses of which may be more nicely ascertained. Some astringents have been recommended to me as specifics; but I have found nothing superior to the *confectio Fracastorii*; and its good qualities principally depend on its anodyne virtue.

I expected much benefit from Bowen's sago powder, given as diet; but though I have endeavoured to make it palatable with sugar and wine, the men are not fond enough of it to give it a fair trial. Thick mucilage of gum arabic seems to be of great use; but I have met with nothing yet that is capable of performing a cure.

Though I find I can do little more than palliate disagreeable symptoms, I have not yet been so unfortunate as to lose more than one patient; and as the unhealthy season is pretty far advanced, and we expect soon to sail for England, I hope a change of air will enable me to preserve the remainder.

The patient who died, had the disorder upon him a long time. When he was much emaciated and reduced, he was advised to send for a black physician from amongst the natives, who are said to have an efficacious method

method of treating the flux. As the proposal was perfectly agreeable to me, one was sent for. He seemed to be quite an empiric; for he was above consultation, kept his nostrum a secret, and administered without inquiring much into the particular nature of the symptoms. He seemed, however, to be no stranger to the importance of physical grimace; for he felt the pulse with more mysterious looks, and in a more apparently investigating attitude, than any vender of drugs in Great Britain ever yet pretended to. He placed one knee upon the ground; upon the other rested one of his elbows, and with both his hands he took gently hold of one of the patient's arms, applying a finger to one of his wrists: he then inclined his head and neck forwards, and at the same time turning his eyes a little diagonally, fixed them attentively upon nothing; or rather seemed, for full two minutes, to be looking stedfastly into himself.

After the ceremony of feeling the pulse was over, he administered a small pill, which looked like æthiops mineral made into a mass with conserve of hips; but I apprehend it was an opiate, from its effects, as the patient

was

was tolerably easy the whole day after it. At night he gave him a hard bolus, about the size of a middling nutmeg, which, from its warm taste, seemed to contain a good deal of pepper. The following day these medicines seemed to have had a good effect; for I observed that the patient's stools, though thin, had a better appearance, being almost quite free from blood or mucus. On the next day, however, the tenesmus and other disagreeable symptoms returned. The doctor's medicines failing to have the same good effects as before, and the doctor himself wishing that he had been sooner applied to, I took the poor patient again under my own care; but in spite of all my endeavours, and in spite of the advice of a practitioner in India, who favoured me with his opinion, our patient grew gradually worse, and was at last sent to the hospital, where he died in a few days.

The joyful circumstance of our leaving this unhealthy climate, obliges me to break short here; but you may expect me to resume the pen when we have got fairly to sea, and are a little settled. I will then finish what I have to say to you on the subject of bilious disorders.

Bay of Bengal, October.

When we fell down the river Ganges in the middle of September, we had scarcely three of the seamen able to do duty, and were obliged to have the ship worked down by the Company's Lascars *.

We

* It would certainly be a humane and prudent scheme to have all laborious work in the East Indies performed by Lascars, particularly loading and unloading the ships, and setting up or taking down the rigging. The expence would in the end be trifling, as many of the people would be preserved from very fatal bilious complaints. If the captain be obliged to take Lascars home, the owners of the ship are in that case under a necessity of supporting them in England, and of paying L. 10 for the passage of every one of them to their own country. The expence of the Lascars in India is but trifling, and they are able to work all day up aloft when the sun is so insufferably hot that our own people are frequently seized with sickness; to remedy which, they generally go down between decks, and if they can procure a can of grog, *i. e.* strong spirits and water, they swallow a large draught. This is certainly adding fire to fire; but the poor sailor considers his grog as the "liquor of life," and as long as he can procure this favourite panacea, he will be rarely solicitous about further advice. The consequence of this is, that when the surgeon is applied to, he finds the patient often in a condition which will hardly admit of being relieved.

A.

We passed by some of the European ships in different parts in the river, whose crews were in much the same condition : so many were confined by fevers and fluxes, that we scarcely saw a white man upon any of their decks. At Ingerlee we passed by a snow belonging to the Company, with one of the counsellors* on board, who was going to take a cruise in Balasore Roads for his health ; and I doubt not but he would experience benefit from the sea air. I think it would be a most useful and practicable plan for gentlemen afflicted with any chronical complaint, to take a cruise in some of the pilot vessels, which are constantly stationed in Balasore Roads to conduct ships into the river†. It is surprising

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what

* Mr Beecher.

† Dr Clark, in his appendix to his observations on the diseases in long voyages, &c. lately published, p. 347. hath made a remark which I shall take the liberty to quote in this place, as the truth is so important that it can never be too often repeated, or too generally published. Speaking of Bengal, he has the following observation

“ Of all our settlements, Bengal proves most destructive to Europeans ; recruits are annually sent out there, and

what a good effect the sea air hath upon our people. I must not, however, forget, that a part of these good effects may be owing to the

and a greater number of adventurers visit that territory than all the rest of our dominions in the East Indies.

“ The commercial interest of the Company, and the success of the voyage, make it necessary that the ships set out from England early in the season ; by which means they arrive at Bengal immediately before or during the rainy months, and the passengers and recruits are exposed to repeated attacks of sickness upon their first arrival.

“ The question which naturally occurs here is, How is this to be obviated ? In my opinion, it may be effected in the following manner ; and if it is judged practicable, it would seem to merit some degree of attention, as it will prove the certain means of preserving every year a number of lives.

“ As the coast of Coromandel is at no considerable distance from Bengal, such Europeans as intend settling at the last place, ought to pass the months of July, August and September on that coast. The soldiers who are sent out to recruit the regiments at Bengal, may also pass some time there ; or, perhaps, it would still be better to supply Bengal with the Madras regiments, who have been seasoned at least a twelvemonth. They might be transported during the healthiest season ; and the number of lives which would be saved by this means would more than counterbalance the expences of the additional embarkation.

“ Through

the exhilarating ideas, that we are now on our passage to Old England, and that we are already many leagues distant from a country which many of us never expected to leave.

I am informed by our captain*, that many years since, when he was a young man, he had been long afflicted with the dysentery, on board a ship in the river Ganges. At the beginning of his disorder he was of a sanguine robust constitution; and had taken emetics, rhubarb, and various astringents, without receiving benefit. For diet he had been con-

S 3

fined

“Through want of attention to this simple and effectual means of preserving the constitution of Europeans upon their first arrival, incredible numbers are yearly carried off at Bengal.”

Every person who is acquainted with Bengal, must be struck with the justness and propriety of this observation, and it is a pity but that it was paid proper attention to by the Court of Directors. The Lapwing sailed from England in July 1769, and arrived (after a very pleasant passage), at Bengal about the end of December. If the trading ships were to arrive at Bengal at the same season, there would be time sufficient for them to transact all their commercial affairs, and to depart from Bengal without their crews being exposed to the danger of residing in Bengal during any part of the sickly months, July, August and September. A.

* Daniel Owens, Esq.

fined a good deal to salt fish, which was for a long time, a fashionable regimen for the flux in Bengal. He says, that one day, instead of taking his usual medicines, he ate a large quantity of tamarinds*, and from that time recovered strength daily.

Before

* Though this may be looked upon as a solitary fact, yet I think it merits much attention. We often observe that acid and acescent fruits are apt to occasion gripes and purging, and hence we are drawn to conclude, that in a looseness, they must be particularly detrimental. But do not all purgatives occasion more or less of gripping? and are not purges indicated to evacuate the bilious and putrid colluvies of the intestinal canal? why then should we not prefer those purging medicines which are possessed of a cooling antiseptic virtue, to those that are heating and irritating?

In all bilious disorders, there is a natural craving for acid fruits, as they correct the alkalescent tendency of the bile: they determine it gently to be evacuated from the intestines; they diminish its acrimonious state, and, by their grateful acidity, take off that nausea and sickness which an overflowing of the bile seldom fails to occasion. The manner in which they procure this effect may best be explained by what Dr Percival says, viz. that putrid gall, &c. is neutralized by all acids, but that those of the vegetable class alone entirely sweeten it. And Dr Ramsay, in his inaugural dissertation, *de Bile*, exper. xviii. observes, “ Ex aceti partibus quatuor, et bi-
lis

Before I conclude, I will mention a case to you which I saw at Calcutta, a short time before the sickly season. The patient had been

S 4

but

lis recentis partibus quinque, mistura facta, neutrius saporem præbebat, sed medium quendam, manifeste dulcem."

The saccharine pulp of tamarind, then, may be of more use in a dysentery than by acting merely as a purge to carry off the putrid bile; it previously sweetens it, and prevents a fresh supply of it. I wish all due attention were paid to this subject, and I think it merits the notice of those gentlemen who are going to hot climates. The manner in which I would propose the use of tamarinds, should be in a decoction or infusion, drank freely, but cool, taking care to make use of no copper vessels. How far the polished brown skin which incloses the stone or white kernel of this fruit, may prove useful as an astringent, (as it is remarkably rough and corrugating to the tongue and fauces), I cannot by experience yet determine, but I think it might be tried.

Dr Tissot, in his useful book, entitled *Avis au Peuple*, &c. hath given some excellent hints relative to the propriety of indulging the sick in the dysentery with ripe fruits; and for the benefit of my readers, who may not happen to have that book by them, I will here take the liberty to make a quotation or two from it.

"One pernicious prejudice which still generally prevails is, that fruits are noxious in a dysentery; that they even give it, and aggravate it; and this, perhaps, is an extremely ill-grounded one. In truth, bad fruits, and
such

but an hour, or an hour and a half ill, yet he was in a miserable situation. He complained of violent pain in his bowels, attended with

S 4

almost

such as have not ripened well in unseasonable years, may really occasion colics, a looseness, (though oftener a costiveness), and disorders of the nerves and of the skin, but never can occasion an epidemical dysentery or flux. Ripe fruits, of whatever species, and especially summer-fruits, are the real preservatives from this disease. The greatest mischief they can effect, must result from their thinning and washing down the humours, especially the thick glutinous bile, if they are in such a state, good ripe fruits being the true dissolvents of such; by which, indeed, they may bring on a purging, but such an one as is rather a guard against dysentery.

“ We had a great, an extraordinary abundance of fruit in 1759 and 1760, but scarcely any dysenteries. It has been even observed to be more rare, and less dangerous than formerly; and if the fact is certain, it cannot be attributed to any thing more probably than to the very numerous plantations of trees, which have rendered fruit very plenty, cheap, and common. Whenever I have observed dysenteries to prevail, I made it a rule to eat less flesh, and plenty of fruit. I have never had the slightest attack of one; and several physicians use the same caution with the same success.

“ I have seen eleven patients in a dysentery in one house, of whom nine were very tractable: they ate fruit and recovered. The grandmother, and one child whom she

almost incessant vomiting and purging of bile. His extremities were cold and benumbed, and his forehead was bedewed with a cold clammy

she loved more than the rest, were carried off. She managed the child after her own fashion, with burnt wine, oil, and some spices, but no fruit. She conducted herself in the very same manner ; and they both died.

“ In a country-seat near Berne, in the year 1751, when these fluxes made great havock, and people were severely warned against the use of fruits, out of eleven persons in the family, ten ate plentifully of prunes, and not one of them was seized with it ; the poor coachman alone rigidly observed that abstinence from fruit enjoined by this prejudice, and took a terrible dysentery.

“ This same distemper had nearly destroyed a Swiss regiment in garrison in the south of France. The captains purchased the whole crop of several acres of vineyard ; there they carried the sick soldiers, and gathered the grapes for such as could not bear being carried into the vineyard ; those who were well eating nothing else. After this not one more died, nor were any more even attacked with the dysentery.

“ A clergyman was seized with a dysentery, which was not in the least mitigated by any medicines he had taken. By mere chance he saw some red currants ; he longed for them, and ate three pounds of them between seven and nine o'clock in the morning : that very day he became better, and was entirely well on the next.

“ I could greatly enlarge the number of such instances, but these may suffice to convince the most incredulous,

clammy sweat ; the pulse was small and frequent. His situation seemed to answer the following

lous, whom I thought it might be of some importance to convince. Far from forbidding good fruit when dysenteries rage, the patients should be encouraged to eat them freely ; and the directors of the police, instead of prohibiting them, ought to see the markets well provided with them. It is a fact of which persons who have carefully informed themselves do not in the least doubt. Experience demonstrates it, and it is founded in reason, as good fruit counter-operates all the causes of dysenteries *.

“ The experience of all countries and times so strongly confirms these important truths, that they cannot be too often repeated, or too generally published, whenever and wherever this disease rages.”

In a conversation which I had with Dr Silvester, on the great advantage resulting from a vegetable diet in dysentery, and in the bilious complaints, so rife in hot countries, he observed, that a relation of his, Capt. — in Sir Eyre Coote’s regiment, had informed him that he laboured under a violent dysentery while at Bengal ; and having observed that several of his acquaintance had died of the same complaint, though treated most methodically with ipecacuanha, rhubarb, confectio cardiaca, and diascordium, he thought it most prudent to take a different course, and accordingly applied to one of the country doctors, who began by forbidding him to take
any

* See the English translation of Tissot’s *Avis au Peuple*, pag. 341. &c. § 339.

following description of the cholera morbus, in Duport's book, *De Sig. Morborum*, p. 24.

“ Intestina ferox stomachumque immaniter urget
 “ Bilis, et erumpens vomitu, motuque per alvum,
 “ In cholera, subitum dat signa minantia lethum;
 “ Namque intro refugit pulsus, crebroque cietur,
 “ Atque acris fitis est, extremaque frigore torpent.
 “ Quique venit fudor malus est, fit luridus unguis,
 “ Convellique manus, carnosaque fura videtur,
 “ Mens labat, et diri sequitur mors plena doloris.”

any other nourishment than rice, and the water it was boiled in for his drink. He soon found the benefit of this regimen, and by pursuing it for nine or ten days, was so much recovered that he had no occasion for any other remedy; and further, that the same method, when followed by some others with equal constancy, had the same good effect.

Many observations have been made, which demonstrate that the bile of the graminivorous animals contains less alkaline salt than that of such animals as live entirely by prey. Dr Macbride hath shewn, that the bile of an ox affords less volatile alkali by putrefaction than that of a man; and it is probable, that in proportion as the bile abounds with an alkalescent principle in the body, it may be more or less disposed to putrefy, or become acrimonious, and stimulate the stomach and intestines to discharge it. Hence, in proportion as the food of men approaches to that of the ox, or to that of the tyger, such changes may be alternately made in their blood

I was informed, that an exceeding short space of time put an end to this poor man's life.

Fevers in general begin with a sense of coldness in the extremities, and a horripilation over the surface of the body. The action of the nervous system seems to be for a certain time depressed ; but, like a spring that has
been

blood and juices, that the biliary and intestinal secretions may be considerably more disposed to putrefaction at one time than at another : and hence it may be in our power, by means of a vegetable diet alone, to strike at the root of the disorder, and to put a stop to the generation of those exalted principles, which Dr Huxham calls the *highly salino-sulphureous*, on the presence of which in the blood, very often, I believe, depends the predilection of Europeans to bilious and putrid disorders.

Whoever hath observed the hands of the black merchants in India to be as cool as fishes in the hottest hour of the day, when his own, though he be in apparent health, and unagitated by exercise, is glowing with heat, will be led to conclude, that the difference depends more on the temperate life of the Indian, than on his having been habituated by nature to the climate. There are few people who have been in India, but who must recollect this circumstance, and yet it is amazing that Europeans should not endeavour to approach to, or adopt entirely, the country way of living, both with regard to eating and drinking, instead of indulging, (if one may call it indulging), in all manner of gluttony and intemperance. A.

been pushed back, it returns with impetuosity ; the blood circulates with rapidity, and all the symptoms of a febrile paroxysm make their appearance. In the case which I have just now mentioned, I suppose the first sedative attack of the disorder was too great for the *vis vitæ* to resist and overcome ; and the patient died before there was fever enough excited to rouse the pulse, and to reanimate the torpid extremities.

I have had scarcely any opportunity of making observations on that hepatic disorder which is emphatically called

The Liver.

I am informed, that it is endemial upon the coast of Coromandel ; but it rarely happens in Bengal. The surgeons who practise at Madras, and other places upon that coast, mention some cases which would appear very extraordinary were they ever to happen in England *. Sometimes, in this disorder, the liver becomes hard and schirrous ; at other times it suppurates, and the matter sometimes points outwardly. When this is the case, the patient

* Many such cases I have seen since these observations were written. A.

patient is said to be saved by an incision into the substance of the liver*.

I have had one case which had some appearance of this disorder in its beginning. A youth, about twenty years of age, complained of a fixed pain in the region of the liver, with a sensible hardness in that viscus. He had a sickly look, and lost his flesh. Small doses of Glauber's salts were the only medicines which I administered to him, and these were frequently repeated. His diet indeed might be called medicinal, as it consisted almost wholly of fresh vegetables, and ripe acid fruit. By the use of these he was pretty well recovered before we weighed anchor for Europe, and at sea I heard no more complaints from him.

I should not have thought this case worthy of your notice, had it not been for a circumstance which attended, or rather, which preceded, the complaint.

This young man began to complain of pain, hardness, &c. in the region of the liver, at the very time that he was finishing a course
of

* Through the common integuments I should suppose, when the matter points externally. A.

of pills, containing calomel, which were given him for a venereal complaint.

Mercurials are considered in India as specifics for the cure of *the liver*. If they be, I am rather surpris'd that small doses of calomel, which is perhaps the best of all the active mercurial preparations for internal use, should not have prevented the symptoms which appeared in this case. This circumstance deserves some attention. But one case alone, and especially so slight a one as this, is not sufficient to form an opinion upon, especially when oppos'd by the practice of great numbers of ingenious surgeons.

Before I conclude this epistle, I will just take notice to you of the

Prickly Heat,

which, though not a dangerous, is a very troublesome complaint to people who reside in hot countries. The name itself is expressive of the thing. It is most common in the hot months, and, when it breaks through the skin in eruptions, hath something the appearance of the itch; but it is most troublesome between the shoulders. It is considered to be a sign of health; and few people in health
are

are entirely free from it. It rages most when the person afflicted sits down to a smoking tea-table, or to dinner or supper. At these times the whole company often seem to be highly afflicted with the itch, being employed as much in scratching, as in eating their viſuals.

Words can ſcarcely deſcribe the ſenſations that are felt from it, upon drinking a cup of tea, a glaſs of country beer, or any other diluting liquor. As ſoon as the fluid is fairly got down into the ſtomach, a ſenſation is inſtantly felt between the ſhoulders, equal to what might be expected from the points of a thouſand pins and needles preſſing through the ſkin. This ſenſation often extends down the back, and ſometimes over the whole ſurface of the body. The ſame ſenſation is often felt when there are no eruptions upon the ſkin.

This is a remarkable inſtance of that ſympathy which exiſts between the coats of the ſtomach and the ſurface of the body ; and it may perhaps account, in ſome meaſure, for the effects of ſmall nauſeating doſes of emetics in procuring a diaphoreſis. The moment the fluid, particularly country beer, which is

a liquor in a high state of fermentation, touches the sides of the œsophagus and the coats of the stomach, it gives some stimulus to them, which is instantaneously communicated to the surface of the body, and answered by the pricking sensations between the shoulders. This effect is so certain, that it is a common thing to see a person drinking, and his servant at the same time rubbing him between the shoulders with a cloth.

I have heard of many instances of people being seized with fevers, from exposing themselves imprudently to cold when this eruption was thick upon them. If it disappear suddenly, I should expect bad consequences to succeed; but I am convinced, from experience, that there is little danger from washing the body in cool water when the prickly heat is perplexing, if the skin be wiped dry after it; and it procures a very pleasant and comfortable cessation from torment. Ripe mangoes are said to cause the prickly heat, and on that account to be extremely wholesome. It is certain, that the prickly heat is most troublesome in the very hot weather, during and succeeding the mango season; and as this fruit has a fine, delicately tere-

binthinated, balsamic flavour, it may be a little heating, and may probably increase that complaint. The ripe mango is undoubtedly very wholesome. It is eaten by every body in Bengal, and brings with it no satiety.

A gentleman, whose name you will probably some time or other know, was in such intolerable torment from the prickly heat, soon after the mango season, that he was determined, let the consequences be what they would, to try the effects of a drying, or, if you please, of a repelling application. He had the eruptions daubed with a linen handkerchief*, dipped in a solution of white vitriol in water. As soon as the smarting which it occasioned was over, the prickly sensation was removed, and he went abroad to dinner, where he ate heartily of strong soup and other kinds of animal

* However trifling it may seem, I cannot help taking notice of the comfort which was experienced at Bengal, by Captain Owens, from the use of a linen handkerchief, when he was afflicted with a very severe ophthalmia. He was almost constantly applying a handkerchief to his eyes; and he found the cotton ones, and even the silk, disagreeably irritating. When I presented him with a linen handkerchief, his expressions of gratitude were the best proofs of the pleasure and satisfaction which he experienced from the use of it A.

animal food. He also drank porter, country beer, madeira, &c. But he paid dearly for his temerity ; for when he laid himself down as usual to sleep after dinner, he was seized with sickness, and a bilious vomiting ; and it was upwards of a week before he recovered his health and appetite. It is not easy to determine positively, whether the dinner or the vitriolic application was the chief cause of his sickness ; but, as he had often dined before in the same imprudent manner, without much inconvenience, it may be presumed, that the bad effects proceeded chiefly from the vitriol.

This eruption is generally considered as a healthy symptom when it appears in fevers ; but it is not critical in them ; for I am told that patients have died with it upon them, and that some have recovered without the least appearance of it, though they had it at the beginning of their disorder.

But it is time to conclude this tedious epistle, which I do, sincerely wishing you every happiness that a temperate life and a healthy climate can communicate to a worthy man. I need not add, that I remain, with the same sincerity as ever, your obliged friend,

J. S.

P. S. Wax is often given in dysenteries, mixed up with rhubarb, &c. into a bolus. I should apprehend, that when given in this manner it can be of very little use, as it must be insoluble in the stomach. If wax can be of any service, the best method of administering it will be as follows :

Take fine white wax, one ounce ;

Oil of tartar per deliq. one dram.

Let them be gently melted over the fire, and, when cold, kept for use. The compound is a species of soap, which incorporates easily with water, and, with the addition of syrup of poppies, will make a pleasant mixture, which in all probability will be of use when the mucus of the intestines is abraded. A mixture of this kind may probably be useful for a clyster in that painful complaint the tenesmus. I have given small parcels of this soap to gentlemen of the faculty, but have not yet had any account of its efficacy.

II.

Observations on the Duration and Course of Fever in Britain, and on the Efficacy of Medicine in interrupting its Course, and in shortening its Duration. By William Brown, M. D. one of the Surgeons to the Royal Infirmary of Edinburgh.

A GOOD many years ago, I got access to records of a well-regulated hospital; and I endeavoured to avail myself of that opportunity for elucidating two points respecting fever. These are, the usual duration of the disease, and the efficacy of medicine in interrupting its course.

That part of the history of fever which respects its duration, and the doctrine of critical days, does not appear to me to be a matter of mere curiosity. The proper determination of this question seems to be necessary, to complete the history of the complaint, because no disease can be said to be well understood till its natural termination be known.

From three hundred and twelve cases of fever, two hundred and eighty were selected, in all of which I have been able, with a considerable degree of precision, to mark the day on which either a remission finally ending in health, or a fatal termination, took place, as expressed in the following table :

TABLE of Termination of Fevers to the 20th day of the Disease inclusive.

On days called Critical.	On days called Non-critical.
3d, 4	4th, 0
5th, 11	6th, 7
7th, 39	8th, 13
9th, 23	10th, 8
11th, 28	12th, 14
14th, 38	13th, 17
17th, 17	15th, 13
20th, 12	16th, 15
	18th, 8
	19th, 13
<hr/> 172	<hr/> 108

From this statement it appears, that the number of fevers which terminate on critical days, greatly

greatly exceeds the number of those terminating on days called non-critical.

The proportion of terminations on critical days above stated, is not near so great as in the cases recorded by Hippocrates, collected by De Haen, and published in Dr Cullen's First Lines of the Practice of Physic. "Of one hundred and sixty-three instances of the termination of fevers on one or other of the first twenty days of the disease, there are one hundred and seven, or more than two-thirds of the whole number, which happened on one or other of the eight critical days." In some other respects also, there is a very material difference between the two statements. Terminations on the 8th, 10th, 12th, 15th, 16th, 18th and 19th, in the cases of Hippocrates, amount to no more than one-ninth of the whole ; while our calculation makes the endings on these days to include almost all the instances of terminations of fever on days non-critical. We also have seventeen terminations on the thirteenth day, on which none were observed by Hippocrates. His terminations on the sixth are considerable in number ; ours, on the contrary, are very few.

I scarcely need observe, that if a day is to be reckoned critical from the comparative number of instances of terminations on it, several of the days called non-critical have a better title to this denomination than some of them which bear the name of critical days. As I have no intention either to establish or discredit any doctrine concerning this matter, farther than the evidence I have procured goes to prove, I content myself with laying that evidence before the world, leaving it to them, assisted by future inquiry, to pronounce a final judgment. This, however, seems undeniable, that a far greater number of fevers terminate on the eight days called critical, taken collectively, than on the ten days reckoned not-critical, taken in the same way. It is farther undeniable, that more of the fevers I have collected, terminated on the 7th, 11th, and 14th days, taken separately, than on any other of the first twenty days of this disease. The proportion of terminations far exceed that of any other four days ; no less than one hundred and twenty-eight cases having ended on one or other of these four days, which is nearly one-half of the whole number of cases recorded.

From

From the above statement, I think we may conclude, that if, in a given number of fevers, three-fifths of them terminate on certain days in number 8, while only two-fifths end on certain days in number 10; there is something in the nature of that complaint which disposes it to endure for a space of time limited by these days; and that therefore terminations on the other days originate in some cause occasioning a deviation from the natural order of things. Again, if nearly one-half of the fevers we have collected ended on one or other of four days, we may conclude, that the nature of the fevers in this country determines them to continue for the space of time marked by these days.

Something farther concerning the question of critical days is to be discovered by a consideration of the efficacy of medicine in the cure of fever. If it shall appear that the course of this disease can be interrupted by the application of means, this, though not a direct proof against the notion that fever is a regular process of the animal economy for the restoration of health, which must continue a certain length of time to produce its effect, yet rather invalidates such a supposition; but
if

if it appears that the means hitherto employed have no such effect, or, at most, that this effect is very seldom produced by them, it will be a strong evidence corroborating the doctrine of critical days.

But, before entering on this inquiry, I shall state some evidence that may help to decide another question. It has been thought that the terminations of fever on days non-critical are not so perfect as those that happen on critical days. To elucidate this point, I have calculated the average length of time requisite for the perfect re-establishment of health, after the cessation of the fever. Patients might be dismissed in various degrees of convalescence; therefore, a true estimate of the whole duration of fever, and its consequences, cannot, from the information given in the books of the hospital, perhaps be justly formed. But I think enough may be obtained to determine this question, because it is probable the degrees of convalescence were equally various in those patients whose complaints ended in critical, and in those who got free of their disease on non-critical days.

I have subjoined a table exhibiting the average stay in the house, after remissions on and before the twentieth day of the disease. From this table it appears, that recoveries were as speedy after terminations on non-critical days as on any other. Nay, the recoveries of those whose disease ended on the fourteenth and seventeenth days were more tedious than any of the rest.

T A B L E

TABLE

Shewing the average Number of Days that Patients staid in the House after a Remission of Fever.

Critical Days.

Day on which remission took place.

Average Number of Days before Dismission.

3d,	—	—	$3\frac{3}{4}$
5th,	—	—	10
7th,	—	—	$7\frac{1}{3}$
9th,	—	—	11
14th,	—	—	19
17th,	—	—	$19\frac{1}{2}$
20th,	—	—	$14\frac{1}{2}$

Days Non-Critical.

6th,	—	—	$9\frac{1}{2}$
8th,	—	—	$10\frac{3}{5}$
10th,	—	—	$10\frac{6}{7}$
12th,	—	—	12
13th,	—	—	16
15th,	—	—	$18\frac{2}{3}$
16th,	—	—	$11\frac{1}{3}$
18th,	—	—	16
19th,	—	—	13

I am now about to attempt the determination of a very important question, and it is with some degree of dread that I undertake it. I mean to inquire, Whether, in the cases I have collected, the duration of fever was shortened by the means employed?

I make no doubt, but the general question, concerning the efficacy of medicine in the cure of fever, has occupied the attention of most physicians. From my own observation, I know that men's sentiments differ in this matter. I hope, then, it will not be ungrateful to any, to see an attempt made to ascertain what is true with respect to it. The conclusions I have made, are, I think, fairly deducible from the evidence I have brought forward. It will depend, therefore, on the credit given to the evidence, whether my sentiments are to be admitted or not. I have laid the evidence before the reader, and told him the sources from which I procured it, and thus enabled him to judge of its credibility.

In order to present the evidence I have adduced, more readily to inspection, I have thrown the instances of fever into the form of a table, marking the length of time the patient had been ill before the application of
medicine

medicine by the prescription of a physician ; and noting the duration of the disease under the influence of medical operation.

It may here be remarked, that medicine might have been injudiciously applied before application was made to the hospital ; and that therefore the effects of the after-practice is not a fair statement of the efficacy of judicious practice. But I imagine this objection will scarcely be urged, because we can hardly suppose that popular practice is generally pernicious. It is well known to consist principally in vomiting, purging, and perhaps blood-letting. Some of these operations the physicians of the House almost always found necessary to institute, sometimes repeat, immediately on the admission of the patient.

N. B. In the following table the cross column at top shews the number of days the sick were under medical treatment before remission ; the other columns show how many patients had remissions on the days indicated by the cross column : the length of time they had been ill before admission, is marked in the left-hand column.

TABLE

From inspection of the foregoing table, it appears that in the cases selected, medicine had no speedy effect in terminating the fever. In 280 instances, only twelve cases are marked, in which the fever ceased on that day on which medicine was first applied. These terminations happened, one on the 5th, one on the 6th, four on the 7th, one on the 8th, one on the 10th, and three on the 13th day of the disease.

To state this matter in the most favourable manner, we will suppose that the happy event in these twelve cases was actually produced by the means used; but it is unfair to draw a general conclusion from what happens on the first day of admission; because, in so short a space, medicine can neither be effectually applied, nor can we expect its good effects will immediately appear, even on the supposition that it had been used in the most effectual manner. We will admit farther, that, if it can be made clear that the greatest number, or a very considerable number of cases, terminate in three days after the application of means of cure, such result will render it at least probable, that physicians possess means capable of cutting short the course
of

of fever. Let us see, then, what is the result on the second and third days after admission into the hospital.

The terminations on the second day after admission are 29, viz. four on the 3d day of the disease, two on the 5th, two on the 6th, ten on the 7th, two on the 8th, three on the 9th, two on the 10th, one on the 11th, one on the 13th, one on the 14th, and one on the 16th.

The terminations on the third day after admission, are 34, viz. four on the 5th day of the disease, two on the 6th, ten on the 7th, three on the 8th, one on the 9th, five on the 11th, four on the 13th, one on the 16th, two on the 17th, one on the 18th, and one on the 19th.

The whole terminations on the three first days after the admission of the patients into the house, are 73. From this number are to be subtracted two cases, which ended fatally on the third day after admission, viz. that of William Bain, on the 7th day of the disease; and that of James Frazer, who died on the 13th day of the fever. We have then 71 cases of recovery on the three first days of medical treatment.

To proceed still on the supposition that the favourable issue of the cases just mentioned was solely owing to the means of cure used, the amount of the efficacy of medicine, in putting a speedy termination to fever, will appear inconsiderable. It appears, that after the operation of medicine, applied in the most judicious way for three days, that only 71, of 280 patients, were relieved from their complaints ; that is, physicians succeeded in their intentions only once in four times.

Could we suppose that all cases of fever are alike disposed to be protracted for an indefinite space of time, we can only affirm, from the above statement, that the efficacy of medicine in bringing about a speedy termination of this disease, can effect this in one of four cases only. But nobody will affirm, that every case of fever is disposed to last for an indefinite length of time, and finally end in death. The contrary of this position is too obvious to require any proof. We cannot, therefore, admit the above statement as true, and must conclude, that the efficacy of medicine is not equal to the degree above supposed : Nor are we at liberty to consider every termination on
the

the days specified, as a proof that such termination was brought about by the operation of the means used.

The above observations contain much evidence against the efficacy of medicine. But to render it still more decisive, it is necessary to examine an objection that may be urged. It may be asked, If the duration of the disease before the application of means had no influence in rendering them less effectual? By some days delay, was not the favourable time for the operation of this medicine lost; and, therefore, a longer time required for the exertion of its beneficial influence?

A simple inspection of the table will solve this question; and I am sorry to say the solution is not in favour of medical efficacy.

It appears that fifteen patients were admitted on the first day of the disease, but only four were freed of fever before the fourth day after the application of medicine. Sixteen were admitted on the second day of the disease; but no more than four had a remission before the fourth day after the exhibition of medicine. Thirty-one were admitted on the third day of the disease, and four got free

of fever before the fourth day after their admission into the house.

In these cases, medicine may be said to have been early applied ; but its efficacy was no more conspicuous in removing fever, than it was when applied later in the disease. Thus, of forty-one admitted on the fourth day of the disease, thirteen were cured before the fourth day of their abode in the house. Of thirty-five admitted on the eighth day, nine got over their disease during the three first days they took medicine. The proportion of speedy recoveries is even as great when the first application was made late in the disease, as appears from the cases of those who were admitted on the tenth day of the disease. The number admitted on this day is twenty-five, of whom seven had a remission of fever before the fourth day after the application of the means of cure.

I think I am warranted to make a general conclusion from the evidence above stated, and to assert, that medicine has not the effect of putting a speedy termination to fever. That it had not this effect as applied in the cases under the care of the physicians to the hospital, the records of which I examined, is surely

surely undeniable ; and I see no good reason to suppose it is more effectual any where else. The gentlemen who prescribed for these patients, have as just a title to discernment in distinguishing diseases, and skill in applying remedies, as is possessed by any other practitioner. Their integrity and faithfulness in the discharge of their duty are equally unquestionable.

But, although a speedy termination was not induced by the means used, was the disease at all shortened by the medicine applied ? I think I have evidence to answer this question in the negative ; at least, sufficient to excite much doubt in the mind of every unprejudiced observer.

Of 280 cases of fever, it appears that only 159 were cured after the application of medicine for six successive days.

I must confess, that, to ascertain this matter certainly, it would be necessary to know the average duration of fever when left to the course of nature. This cannot be done ; and we are therefore obliged to judge according to common opinion. But if we consider the statement of the duration of fever, as given in the annexed table, we shall be inclined to

think, that it does not differ from the general belief concerning the ordinary duration of this disease. The efficacy of medicine in shortening its course is so very obscure as not to be distinguished. If it has any efficacy in this respect, it is so small as to be almost unworthy of notice.

I am well aware this doctrine, concerning the effect of medicine in fever, must be very ungrateful to every feeling mind. It is exceedingly so to mine. But feeling must be sacrificed to truth ; and more particularly so, as the discovery of what actually takes place, and of how much is still wanting in this part of medicine, ought to rouse us to new exertions in the inquiry into means to overcome this malady.

I am also well aware, that the assertions of many physicians are opposed to the conclusions I have above stated. Many think that medicine has actually the effect of stopping fever in its course, and aver that a contrary doctrine is dangerous, and much to be reprehended, because it leads to inactive practice. There are others who imagine, that a fever fully formed is seldom stopped ; but that if medicine be applied during the incipient state,
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the formation of the disease may be prevented. I would not rashly oppose my experience to that of others. I must give credit to what men of probity say they have repeatedly seen; and I shall always esteem it my duty to imitate those practices which have been found by them fitted to produce this end. But I must be allowed to say, that in many hundreds of cases of fever, which I have had an opportunity of attending and prescribing for, in a very large hospital, and not a few in private practice, I never could distinctly observe, that any of the means employed had the effect of stopping fever in its career, though they undoubtedly, in many cases, served to prevent a fatal termination. This acknowledgment may expose me to censure, and induce some persons to say, that my bad success was not owing to want of efficacy in medicine, but to my want of skill in applying it: But the cases before us seem sufficient to exculpate me, both from the accusation of want of skill, and want of discernment.

With respect to the efficacy of vomits and antimonial medicines in incipient fevers, I have not been able to decide. I am disposed to trust in matters doubtful to the observations

of others, and to imitate them in any practice not dangerous. But that there may be much fallacy in their remarks is very obvious; and that they have often deceived themselves is still more so. It often happens that persons are affected with symptoms of incipient fever, which, however, disappear without the use of any visible means. People in the better stations of life often apply in these cases to their physician, and he, as is his duty, prescribes what he has been taught to consider as fit means to prevent a fever. Thus, a fever will often be prevented, when, in fact, no fever was impending. Such instances, I am persuaded, are frequently adduced as a new testimony of the truth of an opinion already embraced. I have said, it is still more obvious that those physicians, who think they have discovered the means of preventing fever, really have deceived themselves. We must either admit that this is true, or that the physicians in camps and hospitals, and the surgeons on board ships, are guilty of the most culpable neglect. With the means in their hands to prevent fever, why do they permit fever to make such dreadful ravages among the people whose health is committed to their

their care? The truth is, they possess no such means, and are not to be blamed.

While I assert that the above conclusions are consonant to the results of the common practice in fever, and more especially so to the effects of the means used in the cases which I have collected from the books of the Royal Infirmary, I do not, however, take upon me to say, that it is altogether impossible either to prevent the formation of fever, or to arrest it in its course. There are, undoubtedly, many testimonies to the efficacy of particular medicines in fevers, and, among others, to the good effects of Dr James's powders, and preparations supposed similar to it. Such testimony has not, however, produced general conviction. Hence, the cure of fever is not generally attempted by the use of such means. But whatever may be the efficacy of such remedies, it does not invalidate the conclusion I have drawn concerning the efficacy of what is called regular practice. I am not, therefore, to be accused of inconsistency, while I relate what I have seen concerning the effect of one of such medicines.

In the months of October and November 1779, I served on board his Majesty's ship
 Namur,

Namur, of 90 guns, at that time one of the Channel fleet, under the command of Sir Charles Hardy. A great many of the crew were affected with disease, so that our sick list amounted generally to from 70 to 90 names; at least one-half of these were under fever, and that frequently combined with a flux. Mr Warren, the surgeon of the ship, attacked this fever with a medicine of his own, the composition of which he did not disclose. He told me, the occasion that induced him first to employ it, was his bad success in curing fever while in the West Indies. It was the only medicine he administered in febrile diseases; and I saw him use it in fevers, fluxes, and rheumatism.

I do not know if this drug falls under the description of quack medicines, because its inventor was a regular practitioner, or a regularly educated surgeon. As it is a secret, it will appear to many suspicious. But whatever be men's opinions concerning the name by which it should be known, I think it my duty to bear testimony to what I saw effected by it. Educated with an utter aversion to all secrets, I confess I was prejudiced against it. I was rather disposed to note its failures,
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than record its success. Its good effects, however, were too conspicuous to permit me to hesitate; and I have often said, and still aver, that I never saw any medicine to which I could attribute the uniform, and almost certain removal of the febrile state, except this.

Mr Warren gave his medicine in the form of pills. From the violence of their operation, they obtained among the seamen the name of Dr Warren's Thunderbolts. The effects produced by them, gave, in fact, a just title to this appellation. Soon after being swallowed, a most violent vomiting and purging ensued, by which the patient being greatly exhausted, a profuse sweat succeeded, and a speedy removal of fever, in almost every case, in a few hours took place. The medicine was usually given in the evening, between 7 and 8 o'clock. At our morning visit, we generally found the sick completely drenched in moisture, but free of his febrile complaints. If this effect had not been produced, another dose of the medicine was immediately given.

It must be remarked, however, that this intermission was seldom permanent. The febrile attack was often repeatedly renewed after 36 or 48 hours; but it was as repeatedly overcome

overcome by a new exhibition of the medicine.

The ultimate success of this practice was sufficiently great to recommend it to attention. During three months that I remained on board this ship, we had not more than three or four deaths, though the sickness was very general; and very few of the sick were sent to the hospital.

While I state these things, I am sensible that the credibility of my testimony is liable to the same objections which I have urged against that of other individuals. It requires, therefore, more evidence to determine whether Mr Warren and I were not deceived. I shall not, therefore, pretend to determine whether this mode of cure ought to be imitated. I confess, that hitherto I have never dared to employ it. The success that is said to attend Dr James's powders, does, in my opinion, give a determination in favour of exciting violent vomiting and purging, which seldom fail of being followed by profuse sweat. It is only in cases where these operations are induced, that I believe much good is done by this preparation.

I have observed, that the effects said to be produced by medicines of the above description, even supposing that they actually follow their exhibition, does not militate against the conclusion I have drawn concerning the efficacy of medicine, as commonly employed, in shortening the duration of fever. Had they really this effect, and were they usually employed, we would not see fevers protracted for weeks, even under the care of the best physicians.

It remains to be inquired, To what good purpose is the usual practice in fever applied, if it can neither interrupt its course, nor shorten its duration?

The advantages that arise from the method of cure usually employed in fever are, I think, established on sure grounds, and may be rendered evident by considering the circumstances that indicate danger in fever, and the means that are known to remove or alleviate these dangerous circumstances. The same consideration will, I think, render it probable, that very often more real benefit is derived to the patient by protracting than by shortening the duration of this complaint. The proofs we have of the real efficacy of medicine, in
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the disease so often mentioned, do not rest on any reasoning concerning the nature of proximate causes. They are not deduced from any notion we may have concerning the removal of that state of the body in which the disease is supposed to consist: they are actually to be apprehended by our senses, and force conviction on our understandings.

I do not mean to say, that we can in no manner or degree comprehend how the remedies applied in fever produce the benefit derived from them. Our knowledge of the animal body is sufficient to enable us to see both cause and effect in many of the consequences that arise from the application of medicine; and this takes place in no disease perhaps so much as in fever.

I have said, that the proofs of efficacy of medicine in preventing death in fevers, are to be drawn from a consideration of the circumstances indicating danger in this disease, and of the means which we possess of removing or alleviating these circumstances. In order to establish this position, it is necessary to attempt a general description of this disease. For our purpose a minute history is not wanted. It is sufficient to point out the most prominent

minent features, and direct our observations to them, without marking the modifications of a general rule, which the peculiarities of individual cases may require.

Fever is a disease of the whole body. We cannot refer it to any one part, nor to any one system of functions alone. There is evidently a derangement of the whole ; there is not a part, nor a function in which it cannot be detected by an attentive observer. It appears to me, that it has been principally supposed to be an affection of the organs of motion, only because deviations from the natural state in the operations of these organs are more easily apprehended by our senses than those deviations which take place in the operations of the more remote powers of the body. From this circumstance, that the effects of fever are more conspicuous in the motions of the system, it has been imagined, that this disease consists principally in an affection of that power from which we think organs derive their motive quality. I am much disposed to doubt this notion, because it seems to intimate a sort of independent existence of such a power ; which we have no grounds to suppose is true. The existence and efficacy of the vital power, as it
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is called, is so much interwoven with, and dependent upon the well-being of every part, and the well-being of every part seems so much interwoven with, and dependent on the natural condition of the vital power, that I cannot readily conceive how we can attribute disease to one without an affection of the other.

I have said, all the things inconsistent with the order of nature which take place in fever, are not perceptible to our senses. Of those that are to be seen and taken notice of by us, all are not equally obvious, nor are all equally present in every case. It is only the more remarkable and constant that I mean here to attend to.

The presence of fever is most certainly detected by the state of the pulse, and the condition of the animal functions.

As a general truth, we may assert, that the pulse is more frequent than in health. It is true, that in some fevers no aberrations in this respect can be perceived. Since the pulse, therefore, continues in its natural condition, it may be alleged that we are wrong in admitting increased frequency as a characteristic of fever. But in medicine, it is well known that the absolute constancy of any appearance
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is not required in perfecting a definition. There are always some exceptions to general rules ; and that rule is said to be most general, which has fewest of such exceptions.

The other part of the animal economy in which fever characterizes itself, is the animal functions. A certain derangement takes place, not only in the corporeal actions, but also in the mental operations. In fever, none of the actions more particularly called animal, can be performed with wonted steadiness and facility. An extraordinary exertion becomes necessary in every act. Motions which in health appear to be performed without consciousness, seem to require, in fever, a perceptible act of the will ; and a consciousness of exertion follows of consequence. If this be not strictly true, whoever has been in a fever, or observed nearly the actions of those that are subjected to it, will admit its approach to the truth.

The increase of frequency of the pulse, and the particular affections of the animal functions, are the true characteristic marks of fever. These may exist for an indefinite time, and to an indefinite degree, without ending in death, provided they be not conjoined with affections of some other of the functions of the living body.

The circumstances not so immediately essential to fever, are to be found in the condition of respiration, of the intellectual faculties, and of the natural functions: to these may be added, certain appearances which are said to indicate a putrescent state of the fluids. These are found in a greater or less degree in almost all fevers. The whole system of actions, and the condition of the organs by which these actions are performed, are so dependent on each other, that scarcely any one can, in any considerable degree, be deranged, without imparting a certain degree of derangement to every other.

But whether I be right in reckoning the affections of respiration, of the intellectual faculties, and of the natural functions, together with a putrescent state of the fluids, as only secondary and accidental occurrences in fever, I may be excusable in considering them as such, with a view of bringing the signs indicating danger in fever into a methodical arrangement, and thereby subjecting them to the more easy comprehension of the practitioner.

Assuming the condition of the circulatory motion of the blood, and state of the animal functions,

functions, as the characteristic signs of fever, let us consider the appearances that take place in these, in persons affected with this complaint.

We have no way of determining the condition of the circulation of the blood, in respect to its rapidity, but by attending to the state of the pulse.

It is plain, that an increase of frequency of the contractions of the heart, provided the same force is exerted, and the same quantity of blood expelled, must accelerate the progressive motion of this fluid. That this acceleration of the motion of the blood actually takes place in some cases, has never, as far as I know, been doubted. This state of motion of the blood is indicated by a frequent and strong pulse. The motion of the blood is not, however, always rapid in proportion to the frequency of pulse. The pulse is often very quick, when we have good evidence to convince us that the blood is scarcely moved forward at all. This is evidently the case in the latter period of fatal fever, where coldness and stiffness of the extreme parts of the body, often with lividity from a stagnation of blood, prove that the motion of the blood in them is

almost, if not entirely, at an end, though the pulse of the larger arteries is frequent to a very great degree.

The pulse, then, as indicating the degree of rapidity with which the blood is circulated in the body, serves to point out two different states of fever, opposite to each other, is as far as the motion of the vital fluid is influenced by febrile diseases.

We often observe, that in the first period of fever, there are clear indications of an unnaturally rapid motion of the blood ; while, in the same person, before the fatal termination, there are signs of the presence of an opposite condition. But during this transition, it is remarked, that the pulse has not been reduced to the natural standard of frequency and strength. The course it observes is, that it gradually increases in frequency, while it is diminished in force. During this transition from the one state to the other, it is evident there must, in every case, be a point at which the blood is moved with its natural velocity ; though, perhaps, this velocity be produced by a more frequent, but less forcible exertion of the power of the heart.

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Here I may remark, that there are cases of fever in which the motion of the blood is not at all altered, as I have hinted above, though the pulse be more frequent; and that there are other cases where the pulse does not deviate from the healthy degree of frequency, and thereby shewing, that its motion is also according to the order of nature.

When this condition takes place, no attention on the part of the physician is necessary to the state of this function, and our cure is to proceed on other grounds. It is a maxim in practice, that when any function is not deranged, no attention to that function is required, unless by affecting it we can influence some other affected with disease. Thus, if the circulation of the blood in fever be in the order of health, we would be induced to use no means to affect it, unless thereby we could give relief to some other function under disease.

In febrile diseases, the motion of the blood is not merely affected in the velocity with which it is circulated, being greater or less than in health; it is also subject to a deviation from the equality of its distribution. This state of circulation is not to be discovered

vered by the condition of the pulse. That it actually takes place admits of no doubt. In the cold stage of all fever, the blood is not propelled to the extreme vessels on the surface of the body in its usual quantity, but is accumulated in the larger vessels. This is the state of fever which has been supposed most favourable for the exhibition of medicine, in order to prevent the perfect formation of fever. I have expressed my sentiments concerning the efficacy of the means usually employed. Whether they have the power of preventing fever or not, this seems to be certain, that they put an end to the state I am speaking of, which is an incontestable proof, that the condition of the body can be changed by the operation of medicine. But this is not the instance of unequal distribution of blood I would wish to be more particularly attended to. In many fevers, an affection of some part takes place, which has been denominated Inflammation. It is attended, when situated on an external part, with redness, heat, swelling and pain. From dissection, it appears that internal parts are often subjected to the same affections. The redness and swelling, which are conspicuous in inflamed

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ed parts, evince that an unusual quantity of blood has been derived to such places, and therefore we are justified in saying, that unequal distribution of blood is to be reckoned among the affections of circulation.

There seems, then, to be three ways in which the motion of the blood in fever deviates from its natural condition: It is either too forcible, too feeble, or unequal. The two first of these cannot exist together: the last is occasionally combined with both.

The circumstances conjoined with too forcible circulation, and indicating its presence, are a full, frequent, often hard pulse; a ruddy colour of the surface, and particularly the face; dry mouth; high coloured urine; flow belly; restlessness; want of sleep; and great increase of heat.

Experience has taught us to know what means are fitted to alleviate the violence of these complaints; and if not alleviated, what are the consequences that follow their continuance.

In respect of the first, we know that whatever diminishes the quantity of blood, whether immediately, by taking part of it away, or mediately, by increasing the serous dis-

charges, has the effect of lessening the impetus with which this fluid is circulated. The same effect is produced by the removal of all kinds of stimuli, and by the application of some substances to the body, which are said to diminish its irritability, and are called Sedatives. Hence the use of blood-letting, purging, diaphoretics, diuretics, vomits and similar medicines; the avoiding of noise, light, thought, external heat and the like; the use of neutral salts, and refrigerants of different kinds.

It is to be remarked, however, that we cannot remove, by these means, that derangement of the system in which the nature of fever consists, though the accidents attending this disease can, by their use, be in some measure changed. If we proceed with evacuation, we sooner or later induce that state of circulation referred to one of the other heads, or perhaps both.

In respect to the consequences following too forcible circulation, we find that it universally, when left to itself, terminates in the same state which I have said takes place when evacuation is carried to an extreme.

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The transition from this to the feeble state of circulation is sometimes gradually progressive ; the pulse becoming, if not always more frequent, at least always weaker and weaker. At other times this seems to take place through the medium of unequal circulation. I do not affirm, that these are connected as cause and effect ; but only observe, that the appearances indicating what I have called unequal circulation, very commonly precede those which point out a languid motion of the blood.

Whether this affection of organs, which I have said depends on unequal distribution of blood, originates in too forcible motion or not, this is certain, that these two are often conjoined ; and it makes no difference in the mode of cure, or in the advantage derived from medicine, whether the one precedes the other, or whether they be simultaneous.

The parts principally affected in fever, strictly so called, by unequal distribution of blood, are the head and lungs. The affection of one of these parts is very frequently succeeded, or accompanied, with the other. Difficulty of breathing, with pain over the thorax, and a suffocating oppression at the pit of the stomach, indicate an affection of the
lungs ;

lungs ; severe headach, inflamed eyes, inability to bear the light, and delirium, that of the head.

That these affections are often connected with too forcible circulation is certain ; and that they are mitigated, when connected with this state of motion of the blood, by every thing that tends to lessen impetus, is also certain. Here, then, is a most unequivocal proof of the efficacy of medicine. But besides these general means, we know of others that actually assist in removing topical affections of this kind. One of the most powerful of these is the application of blisters near the affected part.

Now, as it is known, that these affections, for the most part, either terminate in too languid circulation, succeeded by death, or in effusion producing death, before the fluid effused be changed into pus, or in suppuration, frequently ending in the same way ; it is evident, that the efficacy of medicine in removing these affections, must have a very powerful influence in preventing death.

The too languid motion of the blood, induced through the medium of topical affection, perhaps, because always connected with that species

cies of disorganization called Gangrene, is very seldom cured. I shall therefore pass it over with observing, that if any thing is to be done, the same means which are fitted to remove languid circulation from other causes, are the most likely to be of use, attention being at the same time paid to means that have been found useful in unloading the vessels of the part suffering from the unequal distribution of blood. I may observe here, by the by, that this particular case, of symptoms of topical congestion with languid circulation, is esteemed one of the most difficult combinations in practice, and requires the greatest degree of sagacity to manage. No general rule can be given, but it must be left entirely to the judgment of the practitioner to weigh and determine in his own mind how far an increase of force in the circulation in general, is likely to increase the topical congestion; and how far the means of removing an over-proportion of blood in any part may injure the patient by sinking his strength.

There is another case of languid circulation, which succeeds its opposite, without the intervention of topical affection; and there is yet

yet a third, which very frequently exists without a previous state of over-rapid circulation.

Fever, connected with too languid a circulation, is a very common form of this disease. I am aware that I may justly be called upon to prove that the motion of the blood is less rapid in the fever I am about to describe, than is consistent with the order of health. I confess that I can bring no experimental proofs to establish my position, and in this respect am liable to the same censure I have bestowed on others. Yet this assertion is founded on grounds of very great probability, amounting almost to certainty. That too languid motion of the blood does take place towards the end of fevers is certain ; and that, in many cases of the fever I am now speaking of, at their very commencement, no increase of the rapidity takes place, though the pulse be frequent, can I think scarcely be denied. There is farther a gradual diminution of vigour in all parts of the system, terminating at last in the total cessation of motion. This surely affords a strong proof that the heart and arterial system partake of the same weakness to which all the rest of the body is reduced ; but if the powers moving the blood are lessened, it seems a certain consequence

sequence that its motion will also be rendered less rapid. Add to this, the nature of the remedies employed in this kind of fever, and we shall have little doubt about the state of the circulation that takes place in it.

I have said this is a very common form of fever. It often exists at the very commencement of the disease ; more generally it succeeds a state of motion that is moderate, and seems to be of a good omen. It is also frequently attended, during its course, with affections of parts that are similar in many respects to those which we have said take place in the other form of fever. In other particulars these affections are different.

The symptoms which characterize this form are sufficiently obvious. The pulse is frequent, but in point of strength not greater, more commonly less, than in health. Changeable colour in the face, for the most part paler than usual ; little thirst ; mouth frequently moist ; great weakness in the animal functions ; a disposition to a state resembling sleep ; tremor of the hands, tongue, &c. ; depression of spirits ; pale urine ; belly easy ; little heat, are the common attendants of this form of fever. These appearances vary in degree, according to the degree of that affection of the body
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which I have said is productive of too languid circulation. It is lucky that this state manifests itself in proportion to the necessity of employing the means that have been found useful in alleviating it. If there be any danger of mistaking it, this very uncertainty affords a rule by which we are to proceed in the cure, because it teaches us, that as far as regards the circulation, we are to abstain from remedies that may in any way affect it.

In this, as in the other form of fever, experience has furnished us with means of warding off its bad consequences. But we have no means able to remove it altogether. The most effectual means of increasing the force of the circulation, can never immediately and permanently eradicate the causes of this state from the body. On the contrary, when applied beyond certain limits, they seem to root it more firmly. In the use of all medicine, as in the use of natural food, excess, instead of affording support or assistance, most certainly hastens ruin.

It is almost unnecessary to mention the means that are found useful in this case of fever. Vinous liquors have almost superseded the use of all others.

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The efficacy of medicine in preventing the dangerous consequences that follow any of the three forms of fever which I have noticed, appears to be well established. I do not, however, infer, that all the means employed by physicians act merely in the way I have hinted above. That they may be useful in lessening the danger of fever, I cannot deny, though they may not be so evidently advantageous. We must confess our ignorance of the cause of fever, since we know not the nature of the vitality of the body, nor the texture of its solid and fluid parts. Some of the means used in this disease may be fitted in a way of which we have no conception, to regulate, perhaps even shorten, the duration of fever. The sum of their efficacy may, however, be in some measure estimated by the tables of success attending the practice in the Infirmary, which I have given above.

But there are some other obvious circumstances in fever which ought to be attended to, and for the removal or mitigation of which remedies are provided. One of these is a certain state of the fluids; perhaps also of the solids. This state has been called Putrefaction. I shall not inquire whether this be the same condition

condition of the matter of the living body, that is indicated by the word in common language. That something similar takes place in the living body, is generally believed. This evinces, that such particular appearances occur in some fevers, although not seen in others, and, therefore, that it is necessary to remove or mitigate it, whether we be right in terming it putrid or not. The means that have been found to be useful in this condition of the body, are called Antiseptics, and we have very many testimonies of their good effects. Besides the use of remedies of this name, the removal of all ill smells, which arise chiefly from matters in a state of putrefaction, and which are inimical to health, is grateful to the sick, and, in this way alone, should it even be supposed to be no farther useful, is a good remedy in fever. I hold it an undoubted truth, that whatever tends to sooth the sense is a good remedy in fever. Nor does the disagreeable sensation arising from the temporary action of remedies, contradict this assertion, because the uneasiness is soon over, while the relief obtained is permanent.

The practices which I have hitherto mentioned as removing, or alleviating obvious circumstances,

circumstances, are evidently useful. Nay, some of them are so particularly advantageous, and at the same time agreeable to the sick and their attendants, that we now wonder how physicians could ever have thought it necessary to forbid their application. Among these may be numbered the use of cold, acids, and fresh air.

But there are some operations and remedies, which physicians have supposed to act more immediately on what they esteem the proximate cause of fever, and thereby remove it.

Antimony, exhibited in such a manner as to excite a continued nausea, is one of these, and, as it is sanctioned by the authority of the late Dr Cullen, it merits a respectful consideration. In attempting to estimate the efficacy of this practice, I shall be forced to mention a few observations, which lead me to judge otherwise of it than did my much-esteemed preceptor. Shall I venture to suppose, that so great a man was biassed by a partiality for his own system? I must do so, or doubt of the truth of what I am about to say.

I have endeavoured to use this mode of administration in many cases, but was always

deceived in my expectations. The medicine often brought on a looseness, notwithstanding all my care to prevent it. It is well known, that this occurrence is seldom favourable in fever. It frequently happened, that nausea could not be induced. Either full vomiting, purging, or no sensible effect at all followed the exhibition of the medicine. At other times, a very troublesome vomiting, not easily overcome, succeeded. I found it almost impossible to ascertain the dose which was to create nausea, without affecting the stomach and bowels in a way that was not wished for. A very strong argument, therefore, arises against this mode of practice, from the difficulty with which antimony is managed, to produce the desired effect. The extent of this difficulty will be more clearly perceived, when it is considered, that there is no rule by which we may certainly ascertain the dose fitted to any individual, or to the same individual at different times. This can only be done by repeated trials; but the progress of fever is too rapid to afford time for such experiments.

But could this difficulty of managing the remedy be overcome, still there are reasons which

which convince me that the practice is improper, nay, I think hurtful. My opinion is formed on a very simple observation. I have always remarked, that nausea is a bad symptom in fever. In every fever there is a want of appetite. In bad cases, this arises to a loathing of all food. Now, to prove that nausea excited by medicine is useful in this disease, it is first necessary to show, that this sickness is different from the spontaneous loathing, which we say is a bad sign. If there be no difference between these two affections, it must follow, according to the opinion of those gentlemen who recommend nauseating antimonials, that spontaneous nausea is the best remedy. We have said, however, that this sickness is a bad sign. On a supposition, therefore, that this affection of the stomach proceeds always from a similar condition of its parts, or of the whole body, we must conclude that nausea from antimony is pernicious. But to wave reasoning, let us attend to the evidence of its efficacy, adduced by Dr Cullen. He does not seem to recommend it from any experience he had of its good effects: he founds his approbation of it on its supposed power of determining to the skin, and there-

by removing the atony and spasm, which he asserts is the proximate cause of fever. 'May we not apply what he says of full vomiting to this mode of administering antimony, viz. "When it does not remove the atony and spasm entirely, it may give occasion to their recurrence with greater force."

But an additional argument against this practice, occurs from the consideration of the cases I have collected. It appears from them, that for several years past little use has been made of antimony in fevers, unless to excite vomiting on the first admission of the sick; a sure proof that the nauseating plan had either been found hurtful, useless, or inexpedient.

As a characteristic mark of fever, I have mentioned an affection of the animal functions. Among these, simple sensation has a principal place. This affection takes place in all the forms of fever. It consists in a certain degree of inability in performing the voluntary motions, and of exercising the faculties of the mind, together with an uneasy sensation, not to be called by the name of pain, nor determinable to any particular part, but distributed over the whole body, and manifesting itself to a bystander by the restlessness of the sick. As
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this affection of the animal functions is present in all the forms of fever, so its nature seems conformed to the disease it accompanies, and therefore may be supposed to proceed from different causes. That it actually does so, appears manifest, because it is relieved by remedies which have effects on the body, nearly opposite. That it is alleviated by medicine is undeniable. In the first form of fever, or that kind which is attended with an unusual rapidity of circulation, whatever diminishes this rapidity, gives relief to the disorder in the animal functions. The patient feels more comfortable ; his mind becomes more master of itself, and his voluntary motions are more easily and orderly performed. In that case of fever, which we have said is attended with an unequal distribution of blood, whatever has the effect of removing this inequality gives relief. In the other modification of fever, whatever raises the pulse, assists the patient both in his mental and corporeal operations. When the mental ailments proceed so far as delirium, we know that attention must be paid to the different states of fever I have pointed out ; and we know, that by exhibiting the

remedies adapted to each, the mental derangement is relieved.

If the remarks I have made be founded in truth, I think we may certainly conclude, that medicine has a powerful efficacy in the cure of fever, though it may neither have the power of immediately terminating the febrile state, nor perhaps of shortening the duration of the disease. I have hinted above, that it often serves to protract the complaint; and I think it of much importance that the operations employed should be considered as having this effect.

I think I have made it very probable, that fever is an affection that is not to be overcome but by the exertions of the system itself. If this be allowed, all that ought to be done toward its cure, is to remove or prevent any such derangement of the functions as are incompatible with the continuance of life. This done, we may trust what is farther to be performed to nature alone. The efficacy of the violent mode of cure I before mentioned, is an additional proof that it is only by the exertions of the body that fever is removed. In that practice the whole system is thrown into action, and we can scarce conceive a muscular fibre to

to exist any where which is not put in motion. Motion seems to be the means used by nature to remove fever : it is in fact fever that cures fever ; and if any person attempts to cure it by suppressing this motion, he will extinguish life and fever together.

No person who views fever in this light, will think it absurd to propose the protraction of fever as a very effectual mode of cure. That this is absolutely necessary in many cases, appears very clear, from the course of fever with topical affection. Blood-letting, in these cases, is the principal remedy ; but to bleed to the utter extinction of the disease, is impossible. The rational and universal practice, therefore, is to moderate general impetus, and thus to protract the disease. If this protraction cannot be procured, death speedily ends both the patient and his complaint. The same observation is true of fever, with too languid motion. This motion must be supported and accelerated ; but by this acceleration, the disease is not removed ; it is only protracted by an artificial vigour imparted to the body, by which it is enabled to struggle with, and at last overcome the complaint.

Still, supposing the above observations to be founded in truth, we may farther infer, that a rational and successful plan of cure in fever may be formed, independent of the knowledge of its proximate cause. This is to be done by a contemplation of the evident circumstances of the disease, in their consequences, as far as our knowledge of physiology can teach us; and in the manner of their removal or alleviation, as far as experience has furnished us with means fitted to obtain this effect.

III.

III.

History of the Case of a Man, who discharged by the Anus a portion of the Intestines full fourteen inches in length. By Mr John Bower of Doncaster. Communicated by Dr George Pearson of London.

JANUARY 17. 1796.—Ed. Cooke, æt. 40., a day-labourer, was returning to his home, about two miles from Doncaster, between ten and eleven o'clock at night. Being in a state of intoxication, and having leaned upon the battlements of the bridge, he had, I suppose, fallen asleep, when the noise of a stage-coach coming upon the pavement, awaking him, he reeled from the causeway, and fell down, and a fore-wheel of the carriage passed over his body. On my arrival soon after the accident had happened, I found him complaining of great pain in his abdomen, across which, between

tween the navel and pubis, was the mark of the wheel. There appeared no injury elsewhere. I bled him, and sent a solution of vitriolated magnesia. In the morning, I was surpris'd to find that he was gone home. He had got up early, and would walk; which, by the assistance of two people, and with great difficulty, he performed. I rode over, and found him in violent pain; his body greatly swelled, and very tense; pulse quick and weak; had a nausea, but no vomiting or shivering fit. By means of leeches, fomentations, &c. and keeping the bowels in a lax state for several days, he began to have favourable symptoms, and, in the course of a fortnight, was able to walk about a little. He then complained of a weight at his navel, and said, that whatever he eat, seem'd to do him no good. On the 17th day after the accident, in the evening, whilst sitting by the fire, he was seized with such a general debility, that they were oblig'd to lay him upon the bed, and he continued in that state for ten minutes: the next night it return'd in the same manner; and on the following morning, he parted *per anum* with full fourteen inches of his intestines, apparently a portion
of

of the ileum, with a part of the mesentery adhering to it; after which, he had a lax stool, more in quantity than he ever got quit of at one time since the accident. He continued in a lax state for two or three weeks, (though he could retain his feces), when a tumour appeared below the navel, and in a few weeks broke, and discharged a large quantity of matter, having a yellowish tinct, and a faint smell of feces. At times, his body would be so much distended with wind, as to force out the discharge to the distance of a yard or two. He got strength gradually, and, in harvest-time, was able to walk into the fields. When winter approached, he was obliged to keep in the house, and frequently in bed, as three or four small tumours appeared at different times, and broke; so that now there are five orifices. The *two* first which broke, are a little above the pubis; the *third*, about one and a half inch below the navel, and the *two* last just above Poupart's ligament.

Feb. 1798.—I called to see him, and found him in bed, where he had been confined several weeks:—said that his legs had been greatly swelled, but were then much settled:—that he had five or six stools daily, but that his
appetite

appetite was good.—Sept. 22.—He came over to Doncaster, and called upon me :—looks tolerably well, but continues to be loose in his bowels.

July 7. 1801.—Visited him, and found him in the same state as described above, the discharge continuing more or less from two or three of the orifices.

Nov. 2. 1801.—The following I shall give you verbatim, as I wrote down from the man's own account of himself. He came over to see me at Doncaster :—is a great deal stronger :—appetite very good : nothing disagrees :—no stools soon after eating :—generally six stools in the twenty-four hours ; sometimes more : often he is obliged to get up two or three times in a night ; other times, can lie for several nights together, without being disturbed :—stools loose ; not offensive :—discharge constant ; but more at one time than another :—two orifices open :—wind emitted from them often very offensive :—uses a deal of walking exercise, being made Pinder of the village :—seldom free from pain in his body ; most when colic ; keeps grumbling and rolling about, and twitching for half-a-day together ; but is easier when he has parted with
wind,

wind, which comes more through the orifices than *per anum* :—Discharge mostly yellowish ; sometimes brownish :—orifices never all healed up :—once in ten days or a fortnight, is not so lax :—stools not so much in quantity, being hardened, though the same in number :—has had an ulcer in his right-leg for four years, which increases in size ; discharges a great deal sometimes, and thinks he is easier in his body.—Lives chiefly upon milk and bread and vegetables :—feels the best when he lives well, that is, when he gets any meat and malt-liquor ; then has not so much pain in his bowels, nor parts with so much wind, nor has so many stools.

Extract of a Letter from Mr Bower to Dr Pearson.

I mentioned the case to Dr Monro ; but have not shown him the preparation yet : He told me that he had two or three similar preparations of a much longer portion of the intestines, and that it had been an intus-susceptio. I am doubtful in that respect, on account of the external communication in my patient,

patient, from which there must be adhesion to the peritonæum. Yours, &c.

(Signed) J. BOWER.

Edinburgh, Dec. 29. 1801.

Copy of a Letter from Mr Thomas, Leiceſter Square, to Dr Pearson.

Dear Sir,

I have given a very particular examination to the portion of intestine you were ſo obliging as to ſend for my inſpection. There can be no doubt of its having belonged to the human ſubject, and is, I believe, a part of the ileum, or the lower end of the jejunum. I can account for this ſtrange production in no other way, than from intus-ſuſceptio, the ſtrangulated portion having ſloughed off. This ſuppoſition will be further ſtrengthened, if the intestine at the time of its expulſion was found inverted. Yours, &c.

(Signed) H. L. THOMAS.

IV.

The History of a Recovery from a singular Species of Hiccup, which had subsisted for several Months. By Dr John Nelson Scott, Physician in the Isle of Mann.

MISS A. B. a young lady of a plethoric habit, was seized, towards the end of May 1797, with somewhat resembling hiccup; that is, the inspiration was imperfect and sonorous, but not so convulsive, though more frequent, than what we observe in genuine singultus. It was perhaps more in sound like the panting which occurs after violent exercise, or like an aspirate pronunciation of the interjection Ha! The pulse, respiration and speech were not in the least disturbed. The face was occasionally flushed. The complaint was only suspended during sleep; and, contrary to what happens in common hiccup, it was much aggravated by any voluntary exertion

exertion to impede respiration, as well as by emotions of the mind, though it stopped one day for a few minutes, from a fright ; and it was quieted by the accession, and during the continuance of a slight feverish indisposition, which supervened ten days or so after the attack. It was very loud at times, and in general was but too audible in all parts of a common-sized room. It was attended at first with a sensation across the chest, somewhat of suffocation, and with a disagreeable relaxed feel about the articulation of the lower jaw, so that the mouth would have almost constantly remained open, but for a bandage passed round the head and jaws. The stomach in a state of repletion or otherwise had no effect on the disorder. The patient was enjoying a good state of health previous to the seizure, but, at the time, was labouring under a catarrh, which was supposed to have been induced by cold caught from bathing. The cough, however, and other symptoms, were not long troublesome.

It will be right to remark, that for a year previous to the coming on of this strange malady, the lady had lived very entirely on a vegetable

vegetable diet, taking occasionally a little elder wine.

My much esteemed friend, the late Dr Quillin, and my father, were consulted, who looked upon the complaint as spasmodic. They prescribed various remedies, and among others repeated blisters to the throat, breast, and between the shoulders. Horseback exercise, and a diet of animal food, with wine, were also recommended. I may observe, that a blood-letting which was ordered, induced deliquium, which suspended the complaint for some hours. Opium so violently disagreed with her, that but little of it could be administered. Vitriolic ether increased the disease immediately on exhibiting it.

The patient, after making use of various means, was not in the smallest degree relieved; and being anxious to try the effect of change of air, and to obtain the advice of the faculty in England, repaired thither in August: Her health otherwise was much in its usual state.

Two physicians of eminence were consulted at Liverpool, one of whom mentioned, that he had before met with such a case. Many remedies for the lady's recovery were

made trial of. I am ignorant what they all were ; but from what Dr Quillin (who accompanied the patient there) told me, and from what the lady recollects of the particulars, their plan seems to have been very judicious, and well suited to overcome a complaint as stubborn in its nature as rare in its occurrence. *Inter alia*, blisters were recommended to different parts, and she thinks one was advised to the back of the neck ; but she would submit to no more such applications, having suffered a great deal on that score in the Isle of Mann. At last, however, after much entreaty, she allowed blisters *cruribus internis*. After remaining a little time in Liverpool, she resumed the vegetable plan of diet ; and, what is odd, the complaint stopped for a few days, on shifting to a more elevated part of the town.

No favourable alteration occurring in the situation of the patient, she determined, in November, on a journey to some friends at Bury in Suffolk, where, in the February following, the complaint began to decline, and very soon entirely ceased. She had consulted no medical adviser ; but had occasional recourse to calomel, so as to induce gentle ptyalism ;

lism ; to asafœtida pills ; and pretty constantly had taken Peruvian bark ; (all these were prescribed at Liverpool, and had been used before). She had also taken every night a raw egg, beat up with a little warm water.

In the subsequent December, the lady returned to the Isle of Mann, where she remained well till May 1800, when she was attacked with her old malady, in all its circumstances exactly as before, only perhaps, on the whole, not so violent. No cause could possibly be assigned for this return. The patient had immediate recourse to calomel and Peruvian bark, and applied a blister to her side, in consequence of a pain there. The mouth was made sore.

After the disease had subsisted for some weeks, I was requested to see the patient, (I was not in the island at her former attack) ; and after hearing the circumstances of her case, as detailed above, I proposed that we should try the effect of small doses of sulphur, having more than once found it an admirable medicine in some spasmodic affections of the respiratory organs. The sulphur, as an internal remedy, I had formerly held very cheap. I was first induced to give it a trial at the suggestion of my very worthy friend

Dr Kirby, late of Dorking in Surry, and was not disappointed in my expectations of its utility. In the present case, the sulphur disagreed so much with the bowels, that it was immediately necessary to discontinue it. I then advised that a strong vesicatory should be applied to the neck, so as to cover completely the cervical vertebræ, which, after many solicitations, was assented to. The blister operated well, and the patient was next morning free from her complaint. She was enjoined not to speak,—to remain in bed a day or two,—to have the room dark,—and, in short, to give as little irritation to the system in general, and the lungs in particular, as possible; for there was much tendency to a return of the complaint on any the slightest movement of the body in bed.

In this, as during the last attack, the lady could not lie on her left side without aggravating the malady. The blister was kept open for three weeks, when, on its drying, there was some tendency to a relapse, on which account it was repeated, and preserved in a suppurative state for some time. We may be allowed to suppose, that our patient's indisposition, like true singultus, was very probably continued by the force of habit ;

bit; and we are of opinion, that the interdiction of every irritation, especially of the lungs, in the way of speaking, was a great auxiliary to the blister, which I was induced to apply to the neck, by reflecting that the diaphragm, the organ probably chiefly affected in the disease, was supplied principally by the phrenic nerve, which is formed by the junction of the third and fourth cervical nerves, and from having had experience of the efficacy of blisters to the same parts in cases of singultus in typhus, which had baffled other means. I have heard of persons affected with habitual yawning, who have got rid of so unpleasant a custom by forcing a cough. I thought this simple remedy might have applied to our case, but it seemed to give no interruption to its continuance.

The patient is at present (August 1. 1802.) very well, but has had, very rarely indeed, some returns, seldom, however, for a longer period than half an hour, very mild, and gradually declining, not preceded by any particular cause. One evening it occurred after some walnuts had been eaten, but was almost
7.3 instantly

instantly stopped by violently pressing the wrists.

Both attacks were in May. Had the season of the year any connection with its accession?

Communication on the good effects of the Affusion of Cold Water in Typhus. By Dr John Nelson Scott, Physician in the Isle of Man.

I AM happy to have it in my power to state what signal benefit I have derived from the affusion of cold water in typhus, as recommended by Dr Currie of Liverpool. When attending the Infirmary there, many years ago, I had the good fortune of witnessing its effects under the immediate management of the Doctor, when my mind was strongly impressed in its favour, and since that period I have had various opportunities of observing its truly salutary consequences. I generally order the sea-water, and after the patient is dried with rough linen-towels, I have the whole body well rubbed with coarse flannel,

nel, after which the patient is put to bed, and has some warm wine.

With much deference, I would beg leave to submit to the observation and consideration of medical men, whether the cold affusion be not aided and assisted in cutting short the morbid catenation of the system in typhus, by an emetic dose of the tartrate of antimony. Occasionally, I think I have observed that it has, and as no harm is likely to ensue from its use, I hope it may merit some regard. This preparation of antimony is no doubt a powerful febrifuge, and, as such, observed and allowed by all, as well medical as other people. I need not inform my readers, that the cold affusion is not to be practised but with the nicest attention to the state of the heat and to the pulse; so that when the antimonial emetic is prescribed, it is necessary that it should be administered some considerable time previous to the washing, otherwise the condition of the skin, from perspiration, &c. will be such as to preclude the use of the cold affusion. Practitioners must surely feel infinitely indebted to the distinguished member of the profession by whose labours a remedy of so much importance in fever has been revived and recommended. Whether

we view him as the profound and skilful disciple of *Æsculapius*, or as the fine writer and accomplished scholar, he shines equally conspicuous, and claims our warmest respects. I am happy to understand from Dr Currie, that the affusion of cold and tepid water in that dreadful scourge of mankind, the *Cynanche Maligna*, and its various species (under the names of *Scarlatina Simplex* and *Anginosa*,) is attended with the most beneficial effects. The Doctor means, ere long, to make known this valuable discovery, and to bring forward a great variety of cases in support of the practice. Dr Currie has not yet made any relative observation on the cold affusion in typhus, when preceded by the antimonial medicine.

V.

History of a remarkable Case of Diabetes, treated in the Royal Infirmary of Edinburgh, and extracted from the Records of that Hospital.

IN our last volume we inserted some observations on a case of diabetes insipidus, with an account of some experiments on the urine. As the circumstances of that case were, in many particulars, very remarkable, we shall here present our readers with the history of the case, and the daily reports, at full length, as recorded in the Journals of the Royal Infirmary of Edinburgh during the period for which the patient continued in the clinical ward, at that time under the care of Dr Gregory.

CLINICAL JOURNAL, 28th MAY 1801.

Margaret Potter, æt. 19, a servant-maid.

Complains of pain of her head and back, with vertigo and swelling of her legs. Towards

wards morning her whole body is covered with a profuse cold sweat, after which she feels weak and languid. Her stomach is much disordered with nausea (though without vomiting), and with pain. She complains also of a sense of pressure on the whole umbilical region, which sometimes swells. Pulse 90, and weak; tongue clean; much thirst; belly regular; appetite impaired; sleeps well. Two months ago she had an attack of menorrhagia, which was at first very violent, but the quantity discharged was lessened by means of rest, and some remedies which she used. It, however, continues to recur on the slightest exertion, though not in equal quantities. Her countenance is florid, and she is of a plethoric habit, though she complains of weakness; has used several remedies, with the nature of which she is unacquainted. Can assign no cause for her complaints.

℞. Mist. mucilag. ℥vi.

Acid. sulphur. gt. xxx. M.

Sumat ℥i. quater in die.

Hora somni capiat Haust. Anodyn. cum

Tinct. Opii gt. xxx.

—29.—

Skin cool. Pulse 72, very small and soft. Some menorrhagia. Pain of back as severe as ever.

Repetatur Mist. et Haust. Anod.

Sumat ter in die, Pulv. Cinch. ʒss. ex lacte.

—30.—

Still much headach and some menorrhagia, but less than formerly; still much weakness of back.

Repr. Mist. et Haust.

Utatur lavat. frigid. omni mane.

Sumat bis in die, Pulv. Alum. composit. ʒi.

Omit. Pulv. Cinchonæ.

—31.—

Complains of pain in her left side. Menorrhagia much less. Skin very cool. Pulse small.

Repr. lavat. frigida, Pulv. Alum. comp.

Mist. Mucilag. acid; et Haust. Anod.

—June 1.—

Menorrhagia gone. Toothach and swelled face.

Continuentur medicamenta.

—2.—

Severe pain of the left side increased on a full inspiration, but not attended with cough. Considerable swelling of her legs. No return of menorrhagia.

Omit. Pulv. Alum et Mist. Mucil.

Appl. Empl. Canth. lateri qua dolet.

Sumat bis in die Pil. Scillit. x. gr.

℞. Tart. purificat. ℥i. Aq. bullient ii. lb.

Solve. Sumat ℥iii. quater in die.

Rep. Haust. anod. h. f.

—3.—

Skin cool. Pulse small; of natural frequency. Pain of side as formerly. Blister still on, not having yet risen properly. No more menorrhagia. Belly open. Urine, 30 lbs. Drink, 40 lbs. Swelling of legs much less. By her own account, she has for some time had much thirst; drank a great deal, and passed much urine.

Contin.

—4.—

Thirst very great. Pulse small. Drink, 38 lbs. Urine, 35 lbs.

Contin.

—5.—

Urine, 53 lbs. Drink, 42 lbs. Urine very limpid, but with the natural smell. Legs still swelled. Pulse about 80. Skin very cool. Still some pain in the left side, increased by a full inspiration, but without cough.

Contin.

—6.—

Urine 55 lbs. very limpid. Drink 52 lbs. The urine when examined by the addition of quicklime gave out the volatile alkali. Skin very cool. Pulse natural. Side still painful. Blister continues to run. Swellings as formerly.

Habeat Tamarind. 1 lb., et sumat pauxil. subinde.

—7.—

Urine 45 lbs. Drink 42 lbs.

Contin.

—8.—

Urine in the last twenty-four hours, 45 lbs. Drink 44 lbs. Pulse 56, small and soft. Skin
very

very cool. Belly open. Legs and thighs much swelled.

Omit. Pill. Scillit.

Sumat. stat., et iterum h. f. et cras mane,
Opium puri, i. gr.

—9.—

Urine 50 lbs. Drink 48 lbs. Skin still very cool. Pulse about 80. Some drowsiness from the pills; but her sleep was prevented by a delirious patient.

Rep^r. Opium ad gr. ii. statim, iterum h. f.,
et cras mane.

—10.—

Urine 55 lbs. Drink 53 lbs. Swelling of legs rather less. Some swelling of abdomen. Great general tremor for more than two hours. Skin cool. Pulse scarce 80. One stool.

Rep^r. Opium, ad gr. iv. ter in die.

—11.—

Pulse 84, very small and soft. Skin very cool. Tongue clean and dry, with some tremor of it. No tremor of the body or limbs. One natural stool. Some nausea. Great weakness. Swelling of legs and thighs gradually

dually diminishing. Urine 59 lbs. Drink 58 lbs.

Repr. Opium, ad gr. v. ter in die.

—12.—

Urine 58fs. lbs. Drink 58 lbs. Urine limpid as water. Some vomiting of watery matter. Swelling of legs almost gone.

Contin.

—13.—

Urine 58 lbs. Drink 54 lbs. Legs more swelled at night; but somewhat fallen to-day; but more swelled than yesterday at this time. Some pain of stomach. Belly open.

Sumat statim Pot. Cretac. \mathfrak{z} iii.; et repr. vespere, si dolor ventriculi persistit.

Omit. Opium.

—14.—

Urine and drink 48 lbs. each. Urine still very limpid. Belly open.

Repr. Pot. Cret. \mathfrak{z} iii. redeunte dolore ventriculi; sumat statim et iterum cras mane, Pulv. Alum. Comp. $\mathfrak{z}\beta$.

—15.—

Urine and drink 50 lbs. each. Slight diarrhœa three or four times, but without gripes. Swelling of legs still less; not perceptible in the upper part.

Repr. Pulv. Alum. Comp.

Et hora somni, si diarrhœa perstiterit, sumat
Pil. Thebaic. gr. xv.

—16.—

Urine 59 lbs. Drink 38 lbs. Very little remains of swelling. No more diarrhœa. Appetite pretty good. The urine, when examined by evaporation, by the addition of lime-water, and by vitriolic acid, was found in no degree saccharine, and contained but a very small proportion of saline concreting matter, only about ii. grs. in a pound of urine.

Contin. Med.

—17.—

Urine 62 lbs. Drink 66 lbs. She declares she never felt extraordinary thirst till after the menorrhagia began. Swellings quite gone from the legs. Skin cool and dry.

Omit. Pulv. Alum. Comp.

Descendat in baln. tep.; postea induat indusium laneum, et sumat Pulv. Ipecac. comp.
gr.

gr. x., altera q. q. hora ad quartam vicem, nisi prius sudor profluxerit. Bibat inter sudand. decoctum avenaceum ad libitum.

—18.—

Urine 63 lbs. Drink 62 lbs. The bath and sweating powders were countermanded yesterday. Menfes supervenerunt et adhuc fluunt. No swelling of legs at present, and but little at bed-time.

Contin.

—19.—

Urine 68 lbs. Drink 67 lbs. Some menorrhagia, and pain of back. No return of swellings, except a very little at night. Belly open.

Rep^r. Pulv. Alum. Comp. ad 3fs. quater in die.

—20.—

Urine 66 lbs. Drink 65 lbs. Catamenia cessaverunt.

Rep^r. Pulv. Alum. Comp.

—21.—

Urine 73 lbs. Drink 71 lbs. No return of menorrhagia.

Omit. Pulv. Alum. Comp.

Descend. in baln. tepid. ; postea accincta ad sudorem sumat Pulv. Ipecac. Comp. gr. x. altera q. q. hora, donec sudor profluxerit.

—22.—

Was half an hour in the bath, during which she had no great desire for drink. Gentle sweat after the third powder. Skin still warm, soft, and gently moist. Urine 47 lbs. Drink 46 lbs. Belly open.

Rep^r. Pulv. Ipecac. Comp.

Deficiente sudore, sumat Mist. Salin. Efferves. \bar{z} i. alt. q. q. hora.

Bibat Decoct. Avenac. ad libitum.

—23.—

Urine 36 lbs. Drink 32 lbs. Belly open. Pulse natural. Skin warm and soft, but hardly moist.

Rep^r. Pulv. Ipecac. Comp. et Mist. Salin.

—25.—

Rep^r. Pulv. Alum. Comp. ad ii. quater in die.

—26.—

Menorrhagia has returned with severity. Urine 17 lbs. Drink 16. Belly open. No return of swelling of legs.

Contin.

—27.—

Urine 17 lbs. Drink 16 lbs. Still some menorrhagia. Belly open. Appetite good, but moderate.

Contin.

—28.—

Still some menorrhagia. Urine 17 lbs. Drink 16 lbs.

Rep^r. Pulv. Alum. Comp. ad 3i. ter in die.

—29.—

Urine and drink, 20 lbs. each. Menorrhagia gone. Legs more swelled last night. Scarce swelled at present. Has a painful red swelling in right axilla, which began six days ago.

Admoveantur Hirud. vi. parti tumentis, et postea appl. Cataplasma Saturnina.

Cont. reliqua.

—30.—

Urine and drink 29 lbs. Pain and swelling of axilla lessened. Belly open. No nausea.

Rep^r. Pulv. et Cataplas.

—July 1.—

Urine and drink, 24 lbs. each. Belly open. Much weakness. Pulse scarce 80, and soft. Phlegmon in the axilla growing softer. Still some menorrhagia.

Omit. Catapl. Saturn.

Appl. Catapl. Emolliens, ter in die, ad phlegmon.

Rep^r. Pulv. Alum Comp. ad $\frac{3}{4}$ i. quater in die.

Sumat Opii Puri, gr. ii. h. f. et gr. i. cras mane.

—2.—

Urine and drink, 26 lbs. each. Pulse 96. Heat natural. Pulse last night 120, and skin cool. Much sickness in the evening. Less at present. Much pain from the phlegmon. Appetite bad. Belly open.

Omit. Pulv. Alum. Comp.

Rep^r. Catapl. Emoll. ad phlegmon, et Opium, h. f.

—3.

—3.—

Urine and drink, 19 lbs. each. Pulse 96. Skin cool. Last night pulse 120, and skin hot. Anorexia, nausea, and much headach, with some dimness of sight. Phlegmon softer, and coming to suppuration. Menorrhagia gone.

Contin.

—4.—

Urine and drink, 20 lbs. each. Pulse last night, and at present, 96. Skin gently moist, and warm. Much weakness, and bad appetite.

Repr. Opium et Catapl. Emoll.

Sumat, quater in die, Pulv. Cinch. ℥ii. ex lacte.

—5.—

Urine and drink, 20 lbs. each. Imposthume in the axilla burst spontaneously in the night-time. Discharge scanty. Still some remains of swelling. Pulse 72. Heat natural. Stomach still affected. Much retching and vomiting in the evening, and some this morning.

Contin.

—6.—

Urine and drink, 30 lbs. each. Little appetite.

A a 3

tite. One stool. Still frequent nausea and vomiting. Skin cool. Pulse natural. Swelling of axilla almost dissipated, and very little discharge from it.

Omit. Pulv. Cinch.

—7.—

Urine and drink, 40 lbs. each. Copious epistaxis this morning, to the amount of 10 or 12 ounces. Several returns of retching, but very little vomiting. Pulse 84, and soft. Some headach. Belly open.

Admov. Hirud. vi. temporibus.

Sumat, quater in die, præsertim urgente nausea, Haust. Salin. Effervescent.

—8.—

Urine and drink, 38 lbs. each. Return of epistaxis soon after the visit, and again in the evening, though there had been free bleeding from the leeches before the second attack. About 1 lb. of blood in all lost yesterday. Some returns of retching, especially on taking drink, or even the draughts. Pulse 84. Skin cool. Still some headach. Belly open.

Appl. statim Empl. Epispast. nuchæ.

℞. Pulv. Gallæ, gr. x. Conserv. Rosar, ʒi. M.
Fiant

Fiant hujusmodi Boli très. Sumat unam, ter in die, præmissis Haust. Effervescent.

—9.—

Urine and drink, 30 lbs. each. Scarce any Epistaxis. Very little nausea; none from the boluses. Blister already removed, after running well. Belly costive.

Sumat statim Pil. Aloet. gr. x.

Rep^r. Boli.

—10.—

Urine and drink, 30 lbs. each. No more epistaxis or nausea. Some discharge of blood from the right nipple, near to which there is in the mamma a hard painful moveable tumour about the size of a walnut. By her own account this tumour and pain in the mamma began two or three weeks ago, before the swelling in the axilla. Belly costive. Tumour quite gone from the axilla.

Admov. Hirud. iv. præpe tumorem in mamma.

Sumat statim Electuar. Lenitiv. coch. parv. duo et postea unum alt. q. q. hora, donec alv. respond.

A a 4

Omit.

Omit. Boli per hunc diem, repetantur cras.

Incipiat. cras bibendo aquæ calcis, 1 lb. in die.

—II.—

Urine and drink, 29 lb. each. No more epistaxis. No more hæmorrhagy from the nipple. Laxative operated five times. Leeches bled freely. Swelling of mamma still hard and painful, but rather less in size.

Admov. iterum Hirud. iv. ad mammam ubi tumet. Repetantur boli.

Bibat Aquæ Calcis, 1 lb. cum Lactis Vaccini ʒiv. in die.

—12.—

Urine and drink, 32 lbs. each. Tumour of mamma still smaller and softer, but with some pain. Leeches bled freely. No hæmorrhagy from the nose or nipple. Belly open.

Admov. iterum Hirud. iv. mammæ quæ tumet.

Reliqua ut antea.

—13.—

Urine and drink, 25 lbs. each. Very little remains of pain in the mamma. Tumour still diminishing.

diminishing. Some return of epistaxis. Belly still open. Appetite good. Catamenia per triduum jam fluxerunt.

Contin.

To have a bit of steak for dinner.

—14.—

Urine and drink, 20 lbs. each. Still considerable swelling, hardness and pain in the mamma. Still some headach. No more epistaxis. Cat. fluunt.

Admov. iterum Hirud. iv. mammæ quæ tumet.

Reliqua u. a.

—15.—

Urine and drink, 35 lbs. each. Belly regularly open. Pulse 84. Heat natural. Much headach, chiefly about the forehead. Tumour of mamma still painful.

Utatur Lavat. Frigida omni mane.

Cont. Med.

—17.—

Urine and drink, 24 lbs. each. Slight epistaxis. More pain and swelling of mamma.

Admov. Hirud. vi. mammæ quæ tumet.

—18.—

Urine and drink, 15 lbs. each. Belly open, Leeches bled freely. Pain, swelling, and hardness, increased.

Contin.

—19.—

Urine and drink, 13 lbs. each. Swelling of mamma considerably larger, painful and somewhat red. Much headach. Stomach pretty easy. Belly open.

Appl. statim et repetatur h. f. et cras mane,
Catapl. Emoll. tumori.

Repetantur Aqua Calcis et Boli.

Omit. Lavatio Frigida.

—20.—

Urine and drink, 8 lbs. each. Swelling of breast very painful, with strong throbbing. Pulse, about 108.

—21.—

Urine and drink, 10 lbs. each. Pulse above 100. Still much pain. Swelling and redness of mamma. No fluctuation. Some diarrhœa and headach.

Omit. Boli.

Rept. Aqua Calcis et Cataplasma. &c.

—22.—

Urine and drink, 7 lbs. each. Skin cool. Pulse 96. Still much throbbing pain in the tumour of the mamma, which is becoming softer, with some very obscure fluctuation.

Rept. omnia ut heri.

—23.—

Imposthume of mamma broke spontaneously last night. A considerable quantity of purulent matter mixed with blackish blood was discharged. Pain much relieved. Still considerable remains of hardness and swelling. Skin cool. Pulse scarce 70, small and soft. Urine and drink, 5 lbs. each. Belly open.

Contin.

—24.—

Urine and drink, 7 lbs. each. More pain, and little discharge from the breast. Tumour considerably less, but still hard.

Rept. Catapl. et alia.

—25.—

Urine and drink, 5 lbs. each. Swelling, hardness and redness of the mamma much less.

lefs. No distinct fluctuation. Functions natural.

Contin.

—26.—

Urine and drink, 9 lbs. each. Scarce any pain in the mamma. Swelling much diminished, without any farther discharge of pus. Slight epistaxis yesterday evening. Slight pain of back, but no return of menorrhagia.

Contin.

—27.—

Urine and drink, 15 lbs. each. Mamma almost well.

Rept. Aqua Calcis et Boli ex Pulv.
Gallæ u. a.

—28.—

Urine and drink, 16 lbs. each. No sensible effect from the bolus. Breast continues easy. Skin cool. Pulse natural. Belly open. Catamenia post novem dies denuo redierunt.

Rept. Boli et Aqua Calcis.

—29.

—29.—

Urine and drink, 10 lbs. each. Some menorrhagia. Slight swelling of legs last night. Scarce any at present. Breast almost well. Some return of pain in the stomach. Belly open.

Contin.

—30.—

Urine and drink, 15 lbs. each. Menorrhagia continues. No pain, but still some remains of swelling and hardness in the right mamma.

Omit med. omnia.

Remitted to the Ordinary Physicians.

VI.

History of a considerable Wound of the Brain, attended with singular circumstances. By Mr Edward Barlow, Student of Medicine at Edinburgh, from Westmeath, Ireland.

ON Tuesday the 31st August 1802, I was called, in company with my father, (surgeon to the Westmeath Infirmary,) to visit Maurice Murray, a farmer's son, about fourteen years of age, who the preceding evening had received a kick from a horse on the forehead, immediately over the left orbit, by which a large wound was inflicted, and the boy immediately deprived of sense. In this state he remained till next morning between eleven and twelve o'clock, when we first saw him. We found him in a state of coma, from which he could occasionally but with difficulty be roused; his respiration natural; his pulse small, weak and indistinct.

On

On removing the dressings which soon after the accident had been superficially applied, some portions of the brain came away, and a large chasm was detected in the frontal bone, the broken pieces of which were driven far into the substance of the brain.

These broken pieces of bone were all carefully removed, dressings of the lightest kind applied, and the boy replaced in bed.

Both at the time of the accident, and on removing the broken pieces of bone, much blood was lost; at the last time, flowing evidently from the vessels of the brain. During the removal of the fractured pieces he was occasionally restless, but soon relapsed into that stupor from which the operation had for a short time aroused him. When spoken to, however, he would now open his eyes, stare vacantly, mutter incoherently, and again relapse. An enema was ordered, and a purgative mixture was given at intervals, in such quantities as he could be got to swallow.

As he was above ten miles distant from any regular assistance, it next became necessary to provide for his removal; and though the circumstances under which he was were abundantly unfavourable to such a journey, which

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we could scarce hope he would outlive, yet the measure was nearly indispensable, and the more readily resolved on, as the mere journey could add but little to his danger. Accordingly next day it was attempted, and he arrived in Mullingar, ten miles distant, still comatose, his respiration natural, and with a slow, weak, and equal pulse.

A motion had been procured the preceding evening, by means of the purgative mixture. No enema had been administered. For many days little appearance of amendment could be perceived : the bowels, however, were still kept regular by medicine.

About the beginning of the second week, the pulse became more full, his senses gradually returned, and the wound began to suppurate. In a short time after this he could take food well ; his sleep was undisturbed ; his pulse and breathing quite natural, and every appearance favourable. From one to four stools were daily procured. This freedom of the bowels may appear too great, but when on this supposition the purgative mixture was intermitted, the rapid increase of the strength and hardness in the pulse soon convinced us such apprehensions were groundless. Early
in

in the third week, however, the discharge gradually increasing, became profuse, wetting almost the whole of the bandages by which the dressings were kept on.

Yet this increase of discharge by no means corresponded with the appearance of the wound, which was perfectly healthy, secreting a well-digested pus, which appeared on the surface of the dressings in moderate quantity. This incongruity I could not reconcile. As the discharge, however, was becoming excessive, Peruvian bark was ordered with a view to restrain it. Under its use, it yet suffered no diminution, but seemed rather to increase. I now resolved to make a cautious examination, if any particle of bone remaining within the wound could possibly, by creating irritation there, keep up the discharge, though, I confess, I expected but little from the search, as the discharge was in every respect different from that occasioned by an irritating splinter.

From this search, however, my difficulties soon ceased, though in a way which I little expected.

During the ordinary dressings, I had always, from principles too obvious to need any

comment, been as expeditious as possible in replacing the old dressings with fresh, keeping the wound open only so long as was sufficient to wipe the matter gently from its surface ; but during the examination for the supposed splinter, a larger exposure became necessary, at which time I first perceived that the discharge which wetted the bandages, the nightcap, and even the pillow, was quite distinct from the purulent matter which the ulcerated surface afforded ; that it came from the internal part of the wound, and was perfectly watery, as it now appeared distilling in quick successive pellucid drops from the eyebrow, unmixed with any purulent matter, which would naturally have impaired its transparency.

This unusual phenomenon gave rise at the moment to various speculations on its probable source, most of which were rejected almost as soon as formed.

That alone which seemed sufficiently probable to deserve attention, was that the fluid was an increased secretion from the cavity of the lateral ventricles ; and this opinion I more readily admitted, as I was fully convinced, on the first day's examination, that the fragments
of

of bone had penetrated the left of these cavities. The next circumstance for consideration was, what means most rational could be adopted for the removal of this sufficiently untoward symptom; from which two consequences were to be apprehended, either that its continuance would greatly retard, if not wholly prevent, the healing of the wound, in a way similar to what sometimes takes place from a wound of one of the great salivary ducts; or that, should the wound heal, this copious secretion which the vessels were now habituated to pour out, would accumulate in the ventricles, and produce all the consequences of a compressed brain.

The medicine best calculated to restore the balance which here was evidently lost between the exhalant and absorbent vessels, was undoubtedly mercury, both from its general effect in dropsy, of which nature this affection might be considered, and particularly from the closer analogy of its operation in hydrocephalic cases. A grain of calomel was therefore ordered, in addition to the other treatment, to be taken every night. Six of these were taken without much apparent benefit. The discharge was however somewhat lessened. With each

B b 2

grain

grain of calomel, I now combined half a grain of opium, and from this time the discharge rapidly decreased ; and after the fourth pill, (the tenth from the first administration of mercury), foreness of the gums, and slight salivation, obliged us to desist from its further continuance. The Peruvian bark was now continued ; the bowels kept open by the purgative mixture, (which, perhaps, I should mention, was a mild one, consisting of a solution of two ounces of Manna in one pound of Infusion of Senna, with one ounce of Tincture of Senna), and some meat was allowed for dinner.

The discharge continued gradually, not rapidly to decrease, and at length entirely ceased ; the salivation soon disappeared, and the wound continued to heal. On the 15th of October, the day on which I left the country, the boy might be considered as perfectly free from all danger, having a small bit of sticking plaster to the wound, which he had worn only for the last week, and during which time he had been freed from almost all confinement. The consequences of this case were, an evident depression of the globe of the left eye, and a degree of indistinct vision, arising from this displacement, which obliged him, in attempting to see objects distinctly, to turn his chin towards the
left

left shoulder, thus striving to regain the horizontal line in which the eyes are naturally placed, but from which the late accident had lowered the left one. Some weakness of sight too remained, which prevented him from looking at minute objects for any length of time without pain.

Such are the outlines of this extraordinary and interesting case, which I shall now conclude, without attempting to offer any comment.

The opinion I formed as to the real source of the excessive discharge, and which suggested the apparently successful practice employed, I have already mentioned, nor did any subsequent observations induce any change in my sentiments on this subject. I regret that as no regular journal was kept, I cannot give the detail of dates with greater accuracy.

Yet perhaps such minute detail, however it might gratify curiosity, would add but little real value or importance to the communication.

VII.

Case of a Gunshot Wound, with a Division of the Femoral Artery. By Mr David Aitken, Assistant Surgeon of his Majesty's Ship Overysfel.

THE following short history contains an account of several remarkable circumstances which took place in consequence of the division of a large artery by a gun-shot wound.

COLIN EWEL, æt. 20., a seaman belonging to his Majesty's ship Gannet, was one of the many unfortunate sufferers in the late action off Boulogne on the 16th August 1801. The shot with which he was wounded, entered about three inches above the knee on the inside, and passing obliquely downwards and outwards, made its escape from an opening between the hamstrings. The immediate loss of blood was trifling, and not noticed.

ticed. The only dressing which had been applied, was a poultice; and on the morning of the seventeenth, the day after the accident, he was received at the Naval Hospital, Deal.

From the direction of the ball, and actual state of the limb, which was cold and lifeless, we had reason to suspect the popliteal artery was wounded, and to fear a sudden and profuse hæmorrhagy. Yet this much-dreaded bleeding never appeared. For three days, the limb remained in the same state, cold, lifeless, and without pulse. On the fourth or fifth day, the toes began to look black; and in a few days more, the whole foot, and part of the leg. A week after, he felt a heat in the calf of his leg; nor was this merely a sensation, for the thermometer now rose some degrees higher than it had yet done, when applied. The black colour, also, had now in some measure disappeared, or was confined to the extremities of the toes. We now entertained hopes, and put favourable constructions, on the efforts of nature. But the blackness soon returned, and the gangrene spread over the foot and ankle up to the middle of

the leg, where it began to slough and separate. The patient's health was now suffering, and his life in danger. It was, therefore, determined to amputate the leg. The operation was accordingly performed near the middle of the thigh on the 29th of September. His life, however, was not saved; the stump soon looked ill; he was affected with cough, nausea and vomiting, shiverings, and colliquative sweats soon supervened; and in eighteen days after the operation, he died.

The limb was examined after the operation. We found the artery completely divided just when about to enter the ham; the ends nearly two inches separated from each other, and impervious to an injection of tepid water; the wounded ends of the artery were shrunk, and closed.

The muscles on the back part of the leg were dissolved by the gangrene. They were quite corrupted to the bone; the tibia was bare; its periosteum separated.

What I think chiefly remarkable in this case, is the state of the wounded artery. The artery, just about to enter the ham, was completely divided by the ball, its two ends fairly

ly separated from each other, yet accompanied by no immediate hæmorrhagy, nor followed by that which was to be dreaded after the sloughs had been thrown off. There was not even any internal bleeding; there was no aneurism; but the divided artery was shrunk, and closed; the circulation was destroyed in the limb, and the leg perished before nature had forced open other channels for conveying blood to the parts below the wound.

VIII.

A Letter from Dr G. D. Yeats, Physician at Bedford, to Dr Duncan, giving an Account of the good Effects obtained from a Combination of Calomel and Opium in Inflammatory Diseases ; with Observations on Effects arising from the Acetite of Copper, and on some other important subjects in the Practice of Medicine.

I AM induced to send you the following observations on the management of inflammatory diseases, as I do not believe the mode of treatment here recommended to be very generally known, notwithstanding this subject was stated in a publication by a very ingenious physician some years ago, and was recommended to the notice of practitioners, with a confidence justified by the most decided success. The publication to which I allude, is a
paper

paper which made its appearance in the ninth volume of your Medical Commentaries, by the late Dr Hamilton of Lynn Regis. I earnestly recommend the perusal of the paper to which I allude to the attentive medical practitioner ; for, after its perusal, I am sure every candid physician will be urged to a trial of the mode of treatment recommended. In confirmation of the practice of Dr Hamilton, I can add the success with which its adoption by myself has been attended.

When I have met with diseases proving tedious in the cure, or terminating in death under the common methods of treatment in general use, I have ever held it right to attempt such remedies as analogy would dictate, or theory suggest. In this manner it was, that Dr Hamilton first discovered the extraordinary effects of this noble combination of calomel and opium. I would, Sir, be more diffuse on this subject, had not that able physician just mentioned, already anticipated me. I content myself, therefore, with referring the reader to that most valuable paper, and with stating the following case, in confirmation of the observations I have made, adding, by the way, that I have used calomel and opium in a variety of other inflammatory cases with equal advantage,

tage ; in general acute rheumatism, in enteritis and in pleurifies.

The patient to whom I allude is a female, in the 38th year of her age, and of a robust constitution. Her symptoms denoted a violent disease. The chief of these were, a full, strong, and quick pulse ; repeated flushes in the face ; considerable thirst ; very great pain in the right side, increased by an incessant tormenting cough, and attended with much dyspnœa, and an expectoration of mucus, sometimes tinged with blood. The attack had commenced about a week before I saw her, with the usual symptoms of pyrexia. She had been judiciously, and, as the gentleman who attended very properly remarked, scientifically treated. She had been bled and blistered, and had taken medicines of the nitrous and antimonial kind. I desired her to be again bled, by which she was a little relieved, and a thick crust of coagulable lymph appeared upon the blood. A blister was also applied.

Nearly the same medicines were exhibited for two days ; but finding no amendment in that time, the acute pain, incessant cough, great restlessness, strong, full, and quick pulse, with violent exacerbations of the fever still continuing, I determined to try the effects

fects of repeated doses of calomel and opium. In other cases of inflammatory affections, I had found decided and early advantage from their use ; but I had never used this combination in so alarming a case as the present.

After the third or fourth dose, the great relief obtained filled me with astonishment ; and as soon as the mouth became sore, which occurred in about three days, all the bad symptoms immediately disappeared. It is worthy of remark, that in consequence of a diarrhœa, with griping, which supervened, by eating some fruit, the former alarming symptoms threatened her again. The diarrhœa being checked, and the mouth becoming again sore, she was soon in a progressive state of recovery, and is now in perfect health.

With respect to the *modus operandi* of this medicine, I say nothing at present, although it could be explained from the specific action which mercury induces, when the system is saturated with it. Its effects here seem to contradict the theory of the oxygenation of the system by oxydated medicines. I feel satisfied in stating facts so well founded. And I conclude with observing, in the words of the late justly celebrated Dr Warren, when conversing with me on the operation of a particular medicine : “ I know the fact

fact to be such ; we must let the philosophy alone for the present."

The efficacy of any one remedy in the cure of a disease, can only be firmly established by the test of experience in a variety of cases. It requires, I believe, no reasoning to prove the difficulty of appretiating and determining the effects of medicines used in the treatment of disease. The operations of nature in the animal economy, are carried on in so secret and concealed a manner, that to determine whether any alteration that may have taken place in the progress of a disease, be owing to the exertions of our art, or the efforts of nature, is frequently beyond the keenest research of philosophic inquiry. The repeated and successful use of a medicine, warrants its recommendation upon general principles, however the cause of its salutary influence may elude the examination of the theoretical reasoner. In addition to this, should the medicine be presented to our notice from a respectable quarter, we naturally proceed to employ it with a confidence justified by the authority with which it has been recommended. It nevertheless often happens, that either from the want of discrimination in
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the person who afterwards uses the medicine, or from partiality in the one who recommends it, or from both, that subsequent cases do not always confirm the observations of the original prescriber. These remarks will, I trust, be a sufficient apology for the introduction of the following case. I am aware, that much controversy has been entered into and prosecuted on this subject. The case nevertheless furnishes matter for comment, and points out the inefficacy of powerful medicines, exhibited with an inattention to diet and regimen.

A. B. an officer in the army, applied to me in the end of August, with the following symptoms: A soreness in the throat, with red and swelled tonsils; pains in the bones, particularly in the forehead, occiput and shins: he called them aching pains. A plentiful crop of copper-coloured eruptions was spread over the whole surface of the abdomen, from the pubes to the pectoral muscles. Previous to his coming to Bedford, he had been under the care of a physician in the west of England. He had at that time, in addition to the symptoms above related, an open bubo in the left groin, which had been present about a month; there

there had also been chancres on the penis. Before applying to the physician alluded to, some mercurial ointment had been used, and calomel had been applied to the chancres, which were healed. The ointment had been used for about a month, but the mouth had not been made sore.

No regimen had been at all attended to ; for he indulged in his usual and plentiful quantity of wine, spirits, and animal food. The physician immediately ordered him (July 1.) the nitrous acid, (the quantity he does not know), and the warm-bath, which he used daily for about one week, and every second day for another week. He remained under this gentleman's care for three weeks, and continued to take the nitrous acid for nearly two months, in more or less quantity, till he consulted me. I felt uneasy for his situation, as the disease was certainly making destructive progress. I, therefore, did not hesitate to recommend the discontinuance of the acid, and to prescribe for him mercurial frictions daily, with a mercurial pill at night. I also laid a restriction on the quantity of stimulant food, both liquid and solid. He began upon this plan September the third. In about five days his mouth
became

became sore, and every bad symptom began to yield. He is now perfectly free from the disease, having taken the necessary tonic medicines. A case is related by Dr Ferrier, in the third volume of his Medical Histories, which also shews the danger of relying upon the nitrous acid.

Although the mode of treatment adopted in the following cases is not peculiar, I nevertheless send you the history of them, as the symptoms were violent, and rather singular in their nature. Mary Smith, æt. 50, with her two daughters, Elizabeth and Mary, the former 22, the latter 18 years of age, were, on the 31st of September last, seized with the following symptoms:—A violent pain at the pit of the stomach, and swelling of the abdomen. About an hour after, sickness, with vomiting, came on in the mother and younger daughter. The eldest daughter had no pain at the pit of her stomach, but was seized later with griping and purging. The sickness and vomiting of the mother continued the whole of next day, and every thing taken into the stomach was immediately rejected. The apothecary of Shefford, near which the village of Shillington, where those patients reside, is situated, sent

her some oleum ricini. Part of it was thrown up; the remainder purged her, and the vomiting ceased.

On Thursday, October 3. Mr Gaye, the surgeon of the family, was desired to visit them. The tongues of all of them were, at that time, very much furred with a greenish incrustation. They complained of a rawness of the fauces, and of a defect in their vision, and the pupils of their eyes were very much dilated.

On Wednesday, October 9. I was sent for to visit them, and found them in the following situation: They all complained of dimness of sight, considerable rawness of the fauces, with great difficulty of deglutition of fluids. No solids could be at all swallowed. Upon inspecting the throat, a shining pellucid redness was observed spread over it, with an enlargement of the tonsils and epiglottis. The tongue of the mother was harsh, dry, and red, with considerable thirst, similar to what is observed in some fevers. In the daughters, the tongues were moist, and were covered with a white coat. The pulse in all was small, but indicated nothing febrile. The appetites of the daughters were returning; but a disinclination to food still continued in the mother, who was also affected with a
great

great dejection of spirits. The sight was very considerably affected in all. The pupils of the eyes were very much dilated, and were perfectly insensible to the stimulus of a strong light. All objects appeared to the mother double, and enveloped in a thick mist. Double vision formed no part of the complaints of the daughters, but only clouds and muscæ volitantes before their eyes. Their vision, however, was, of course, very indistinct.

By investigating the cause of these symptoms, I found, that on the day previous to the attack, they had dined on pickled salmon, at Luton, seasoned with some vinegar, purchased there. I concluded, either that the salmon, or vinegar, was impregnated with acetite of copper (*verdegriis*), which was the cause of these symptoms. This opinion was strengthened by the circumstance of the father not being attacked in this way, as he ate none of the salmon, and the mother, who had ate the most heartily of it, was the most severely handled. I therefore ordered them all to take large doses of sulphur, which is well known to neutralize and moderate the violent effects of all the mineral poisons: castor oil was occasionally prescribed, and blisters were applied round the necks of all.

I visited them again on Tuesday October 13. Every symptom was yielding, except the affection of the eyes, the pupils of which still continued dilated, and insensible to light. I requested that the medicines might be continued, and that, as soon as the affection of the throat and bowels was removed, mercurial medicines should be exhibited until the mouth should be made sore. This has been done; perfect vision has since returned, and the pupils are restored to their original irritability. I treated the disease of the eyes as amaurosis; and if this method had not succeeded, I should have recommended electricity, with the arnica.

In the third volume of Medical Facts are related some cases of the effects of copper, by Mr Davidson, a very sensible apothecary of London. In these cases no effects were produced in the stomach and bowels, as the poison was much smaller in quantity, was well sheathed by the lubricating fluids with which it was taken, and was not so highly oxydated as in the cases I have stated. In the dissertation on mineral, animal, and vegetable poisons, published by Mr Prestwick in 1775, a statement of the symptoms produced by copper is given, but I find no mention of the affection
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of the fauces. A curious case of inflammation of the epiglottis, is related in the first volume of Medical Facts. Whether or not the poison of copper was in any way the cause of this complaint, I cannot say, as the previous history is not particularly detailed.

I have just now under my care a patient with a diseased liver. An abscess has formed, and made its way through the diaphragm, and pointed between the ribs just below the right breast. It has been opened, and through the opening has been discharged a quantity of purulent matter, with about forty hydatids, with portions of their membranes, at different intervals, attended with fits of coughing. They still continue to come away, and since the discharge commenced, the patient has been materially relieved in all his symptoms. A curious case of this kind is mentioned in the second volume of your Commentaries, p. 303, which terminated favourably. The appearance of the hydatids is exactly similar to those described by Dr Baillie in his Morbid Anatomy. Some of them are of the amber colour he mentions, or rather of that tinct which the gall-bladder gives to the arch of the colon.

IX.

Remarkable Cases of Convulsions, with some Observations on the Hæmorrhœa Petechialis, or Petechiæ sine Febre. Communicated to Dr Duncan junior. By Dr Albers, Physician in Bremen.

A CHILD, about nine weeks old, perfectly healthy, was suddenly seized with convulsions, which, after the lapse of an hour, by the use of moschus liq. corn. cerv. succ. glysters, &c. disappeared. They returned, however, in a few hours, with the same violence, and again disappeared on using the same remedies. After this, the child continued to experience the same paroxysms repeatedly, with only the intermission of forty eight hours between each. I could not possibly ascertain the cause of this affection, although the greenish stools, which sometimes bore the appearance of soft cheese, made me believe that it might be owing to acid; yet magnesia, sap. Venet. rhab. in conjunction with flor. zinc. were used without any effect, only glysters shortened the paroxysm. About eight days afterwards, the pupil became very
much

much enlarged, the eyes squinted, and the child often carried its hand to the head.

I now thought I had discovered the cause of the disease, and that it arose from an accumulation of water in the head. I prescribed calomel for internal use, and a blister to be applied on the neck, though this latter was omitted, the parents considering the child as irrecoverably lost, one of their children having died some time before of the same disease, the symptoms of which they but too well recollected. By the use of these remedies, the child seemed to recover. The first days after taking them, the convulsions did not appear for more than forty-eight hours. However, they returned to such a degree, that the child had sixteen different paroxysms in one day, and was unable to swallow any thing during twenty-four hours, consequently it could not take any physic.

As soon as the child was able to swallow again, the medicines were continued. The infant grew so lean, that I lost all hope. A few days afterwards, the nurse, while dressing it, accidentally touched (rather violently) the child's ear, out of which a fluxion of matter immediately ensued. The nurse informed me, that immediately after the fluxion, the

squinting ceased, the pupil contracted itself, and the convulsions did not again return. The child after this recovered very quickly.

It appears to me beyond a doubt, that the convulsions were owing to the irritation of the abscess.

The above case proves how difficult it is to ascertain the causes of convulsions.

Not long after this event, I was called into house by a lady, who had found her child dead in the cradle, though an hour before she had left it perfectly healthy. The froth at the mouth, and the distortion of the extremities, were symptoms that the child had apparently died of convulsions. The examination of the dead body shewed the cause of the convulsions, which otherwise would not easily have been guessed, namely, a volvulus or intro-susceptio.

The same cause I observed at a dissection of a *Sus Tajaflu*, or Mexican hog, which had likewise died of convulsions in the space of a few hours. In my second part of remarks on the anatomy and physiology of animals, I shall

shall communicate the description of the structure of this interesting animal.

All these cases prove how difficult it is to ascertain the causes of convulsions in many cases.

*Morbus maculosus hæmorrhagicus Werlhoffii,
vel Petechiæ sine Febre.*

About a twelvemonth ago, I was sent for to a farmer, who they told me was spitting blood. I soon convinced myself, however, that they had mistaken his illness; for he was afflicted with the disease (which seldom appears among us) very erroneously called *Morbus maculosus hæmorrhagicus Werlhoffii*, this disease having been described by other physicians before Werlhoff. My patient was a man about forty years old, who had complained for some time of a relaxation of his strength. A week before my visit, he had perceived a swelling of the gums; soon after, the spittle obtained a bloody colour. This had continued increasing to such a degree, that the patient lost above three pounds of blood daily, which he evacuated partly through the mouth and partly

partly through the nose. The whole face, particularly round the mouth, was extremely swelled; the gums were thick, and of a dark red bluish hue, in which I perceived plainly several sore places, out of which the blood flowed. The whole body, the head excepted, was covered with spots completely resembling *petechiæ*, which were of the largest size, and most numerous, on the breast. They were of different colours, some light-red, some dark-brown. The former had a dark point in the middle, not quite so sharp as that of a flea-bite. The feet were swelled œdematously almost up to the knee; the pulse small and quick; the whole body shewed symptoms of the most extreme weakness.

I immediately prescribed a strong decoction of Peruvian bark, with elixirium acidum Halleri, and made him wash the mouth repeatedly with a decoction of *Salvia* and Vinegar. I ordered him to eat rich gravy soup plentifully, and to drink wine. The use of these prescriptions restored the patient very quickly. First the bleeding in the mouth ceased, then the spots disappeared; the œdema lasted the longest, which also vanished by the use of strengthening remedies, in conjunction with diuretics.

I forbear all remarks on this disease, which has so well been described by Wichmann, late physician to your King at Hanover, and by Harles, professor at Erlangen.

I am happy to add, that this patient seems to have been cured by the same remedies which were used in a similar case by your father, an account of which he published in a volume of Medical Cases selected from the records of the Public Dispensary of Edinburgh, the first edition of which appeared in 1778.

X.

History of a Singular Case of an Extra-uterine Fœtus discharged by the Rectum. By Mr John Goodfir, Surgeon at Largo.

A. B. a stout healthy woman, aged thirty-six years, about the 10th of September 1800 became pregnant. Soon after this time, when working in the harvest field, she was suddenly seized with complaints in her bowels, apparently inflammatory. She was treated for such, and recovered. About the 1st of January 1801, she was sensible of the child's quickening. From this till the 25th of April, she continued in moderate health. But on that day, after great exertion, she felt, to use her own words, the child give a violent struggle, and at once all its motion ceased. This strange sensation almost made her faint. At this time also symptoms of labour came on, and continued more or less for six or seven weeks.

From this period till the beginning of January 1802, she gradually recovered, though
not

not to perfect health. She was then seized with a fever, which continued for some weeks, during which she had frequent symptoms of labour. This fever, which commenced about the 19th of January 1802, appeared to be of a symptomatic nature, arising from the irritation of the dead fœtus. Her principal symptoms were, frequent small pulse, total want of appetite, thirst, frequent inclination to vomit, profuse universal sweatings, great weakness and loss of flesh, urine rather in small quantity, belly bound. Under these symptoms, more or less, she continued daily losing ground, apparently from the above date till about the last week of February, when she informed me, that a little time before this she began to observe a thick whitish substance to be discharged from the rectum; and a day or two after said, that, upon introducing her finger into the rectum, she felt something very hard.

Upon this, I examined the rectum; and, to my astonishment, introduced my finger into the fractured cranium of the child. With some exertion, I brought off some small portions of the fractured and putrid bone. It was now a decided case. The object was to
extract

extract the putrid fœtus. Both my son Archibald and I thought of different instruments for the purpose, but none succeeded so well as our fingers, in bringing off portions of the bone. At last we succeeded in bringing down the head to the verge of the rectum, but could proceed no farther at that time, as the woman began to be very faint.

As the case was singular, and as Dr Williamson of Anstruther had attended this woman in the first stage of her pregnancy and disease, I sent for him to witness and assist at this very singular delivery. Accordingly, on the 1st of March 1802, I brought off an entire child, the fractured skull excepted, in a highly putrid state. We now considered every thing as being in a favourable train: but her pulse still kept up, and considerable irritation about the rectum led me to examine that part again. I found a large portion of the cranium lying across the rectum two or three inches long, and one or two broad, which gave much pain in bringing it off. This was on the 7th of March; and from that day, the woman began to recover, and continued daily to amend. About two months after, she was in perfect health,

health, and still continues so in every respect. No doubt the discharge from the rectum previous to the extraction of the child, had been the brain, which had been for some time coming off in the form of fetid stools.

After the eighth month of gestation, there was twice an appearance of the catamenial discharge.

She has been married sixteen years, had a child by natural labour the first year after marriage, and never again became pregnant till September 1800.

XI.

Observation sur la Cataracte. Par A. Monnot, Professeur d'Anatomie et d'Accouchement à Besançon. Communicated by Dr Inglis.*

LA vieilleſſe étend ſur les hommes ſon peſant ſceptre, et les conduit au tombeau par des degrés plus ou moins accélérés. Chez les uns, précipité avant le terme déterminé par la nature. Chez les autres, il parcourt les nuances d'un dépériſſement gradué: Des parties flexibles, et qui cedaient ſans peine à tous les mouvemens que leurs dictait la volonté, ceſſent de lui obéir: des orgânes qui percevaient les ſenſations diverſes, n'en éprouvent

* Although the Annals of Medicine are to be conſidered as ſtrictly an Engliſh work, yet on the preſent occaſion we have thought it adviſable to preſent theſe obſervations to our readers in the original French in which they were communicated to us; as thus we do not run the riſk of leading the reader into any miſtake reſpecting the meaning of the author.

vent plus que de confuses. Cet état enlève à l'homme ces jouissances, lui font éprouver les horreurs anticipées de la cessation de son être. Telle est sa situation quand il approche du terme de la vie.

Un art consolateur vient à son appui, et sur un des organes qui lui procure le plus des jouissances, il déchire le bandeau qui lui voilait les beautés de la nature. Ce bienfait, en multipliant son existence, rendue par un organe qu'il avait perdu, lui donne une vie nouvelle, qui élève son âme jusqu'à cette contemplation que donnent les ouvrages du Très Haut, sentiment qui n'est éprouvé que par l'homme qui a perdu la vue, et qui lui a été rendue par l'opération de la cataracte.

L'origine de cette maladie tient, sans doute, au premier âge, ignorée dans ces tems reculés. Nous ne trouvons que dans les ouvrages d'Hypocrate, les premières traces qui la caractérisent.

Les yeux, dit le Prince de la Médecine, viennent-ils à prendre, spontanément, une couleur bleu azur, ou bleu de mer ? Cette alteration conduit à l'affaiblissement gradué de la vue, et sa perte totale. Ces signes nous font connaître évidemment l'alteration cristalline : et si

le Père de la Médecine a ignoré le caractère de cette maladie, et ses procédés curatifs, cela a été du à l'impossibilité où il était, de s'assurer, par l'examen anatomique, de la qualité du corps qui interceptait la vision. Les conseils qu'il donne, et l'application du feu aux veines de la tête, cette partie de la chirurgie n'a fait aucun progrès jusqu'à Celse.

Cet auteur Latin est le premier qui a parlé de cette maladie, et de son opération. Il conseille de tirer du sang de la veine frontale ou nasale ; de cautériser les veines des temples ; de faire couler la pituite par des gargarismes ; employés de fumigation, avec des collyres acres, &c.

Une cataracte ancienne ne peut être guérie que par l'opération ; et voici le mode qu'il a décrit :

On fait asseoir le malade sur un siège, à dos incliné en face de lumière : l'opérateur se place vis-a-vis, sur un siège un peu plus élevé : un aide contient la tête du malade par derrière ; et, pour empêcher l'œil malade de se mouvoir, on couvre le sain avec de la laine, qu'on maintient avec un bandage. Si la cataracte est à gauche, on opere avec la main droite, et *vice versa*.

L'opérateur

L'opérateur prend une aiguille bien affilée, sans être trop grêle, et l'enfonce au travers de la conjonctive, dans le point mitoyen, entre le noir de l'œil et le petit angle, et la dirige sur la partie moyenne de la cataracte, de manière à ne blesser aucunes veines. Il doit la pousser hardiment, jusque dans la chambre postérieure. Lorsqu'elle y est parvenue, on incline l'aiguille sur la cataracte, qui l'agite légèrement, pour la baisser au-dessous de la pupile. Ensuite, il appuie un peu plus, pour la fixer dans l'endroit où elle s'est logée. Si elle remonte, Celse veut qu'on la divise par parcelles.

L'opérateur, après avoir retiré son aiguille en ligne droite, appliquait sur l'œil de la laine enduite de blanc d'œuf, qu'il contenait par un bandage.

Telle est l'opération de la cataracte, que l'on a pratiqué depuis ce médecin jusqu'à commencement de ce siècle.

Les auteurs anciens regardaient la cataracte comme une pellicle, qui se formait derrière la pupile, et qui interceptait la lumière.

Ambroise Parré dit, au septième livre de ses œuvres, p. 390. : “ Pourquoi disons que cataracte n'est autre chose qu'une taie ou pe-

tite peau, qui naît sous la tunique cornée à l'endroit de la pupile ou prunelle de l'œil, urgeant sur l'humeur aqueuse."

Guillemot, œuvres de chirurgie, page 184. dit, que " C'est une concretion d'humeur, entre la cornée et l'humeur cristalline, qui est le siège de la direction des couleurs."

Fabrisse d'Acapendante, œuvres chirurgicales, page 542. : " La suffusion procède d'une humeur pituiteuse, qui se congèle dans l'œil, en forme de tunique, ou de tache, ou de goutte, ou de panicule, ou de pellicule, ou d'eau."

Pigray, page 189. : " Suffusion, ou hipochiffisse, est une concretion ou assemblément d'humeurs contre nature, entre la pupile, ou entre la tunique tragoïde, et l'humeur cristalline." Tel a été l'opinion des plus célèbres chirurgiens sur une chose de fait que la seule anatomique aurait éclairée. La force de l'habitude, le préjugé, le profond respect sur la décision des maîtres de l'art, auraient continué jusqu'à nos jours, si le hasard, qui a toujours servi les plus belles découvertes, n'avaient pas donné lieu à de nouvelles lumières sur cette partie.

Antoine Maître-Jean est le premier qui démontra,

montra, et fit connaître, que la cataracte était produite par l'opacité du cristallin*. —Voyez *Traité des Maladies des Yeux*, page 103. Entre un très grand nombre d'observations, je me borne à citer la suivante : Un homme mouru à l'hôpital où cet auteur était chirurgien. Il avait observé que ses yeux étaient cataractés. Il les sépara de leurs orbites : il les ouvrit, et remarqua que cette cataracte occupait la place du cristallin, et il reconnu, en effet, après avoir enlevé cette partie, que c'était lui qui faisait le siège de cette maladie.

La connaissance plus positive de cette maladie, ne donna naissance à aucun autre mode opératoire. Les progrès que la chirurgie a fait dans cette belle partie de son domaine, sont dus au peu de succès que présentait l'ablation, et au hasard qui y a conduit.

Le cristallin déplacé par l'aiguille, de la chambre postérieure à l'antérieure, en passant par la pupile ; le premier exemple est de Méry, consigné dans les *Mémoires de l'Académie des Sciences* pour 1707, où l'on ou-

D d 3

vrit

* Avant lui, Quarré, Laguier, Bouri, Pierre Borel, Bleguy, &c.

vrit la partie inférieure de la cornée qui livra passage au cristallin. Cette opération a offert un double avantage, en confirmant que l'opacité du cristallin est l'obstacle à la vision, et en présentant une opération, qui offre des avantages que l'on ne pourrait espérer de l'ancienne méthode.

Bientôt les diverses personnes consacrées à l'art de guerir, donnerent à cette opération toute l'importance qu'elle mérite, et enlevèrent au charlatanisme un des plus beaux fleurons de la chirurgie. Depuis ce tems jusqu'à nos jours, on s'est attaché à varier et à perfectionner les instrumens qui sont nécessaires à son exécution ; ce qui a conduit à une méthode simple, facile et sûre, que l'habitude peut donner, qui dispense du speculum, et qui n'a besoin que du bistoury de Lafaye.

Cette maladie offre des menaces qui nécessitent des variétés dans ses moyens curatifs ; ce qui a fait distinguer la cataracte en vraie et en fausse. La vraie est due à l'altération du cristallin, qui acquérant de la solidité, et se colorant, s'oppose au cours de la lumière sur la retine.

Les fausses sont la dissolution partielle ou totale du cristallin dans sa capsule, que l'on
nomme

nomme Cataracte Laiteuse : le défaut de transparence de cette capsule, a été nommée Cataracte Membraneuse. Cette dernière consécutive à l'extraction du cristallin, prive le malade de la vue, quoique l'opération soit parfaitement facile. Elle est l'écueille où viennent échoir les plus celebres oculistes.

On préviendra cet accident, si l'opérateur éclairé et d'une main sûre, divise la partie postérieure de la membrane cristalline, qui s'écarte, et donne passage à l'humeur vitrée qui va occuper l'espace que renfermait le cristallin. Cette membrane, éloignée du foyer où se dirige la lumière, ne pourra plus en voiler l'action.

Pour faire connaître au lecteur, les avantages supérieures de cette méthode sur celle qui est habituellement suivie, je vais entrer dans les détails de son exécution.

Le malade assis près d'une fenêtre, l'opérateur se place vis-à-vis sur une chaise plus élevée : la tête de l'opéré est appuyée sur la poitrine d'un aide, qui la fixe d'une main placée sur le front, de l'autre il relève la paupière supérieure ; pour rendre l'œil moins mobile, on couvre le sein de quelques compresses soutenues d'un bandage. L'opérateur baisse la paupière inférieure, sans comprimer l'organe, et

de la main libre, il prend le bistoury de cataracte, qui lui est présenté par un aide. Il en dirige la pointe au bord de la cornée transparente, à la partie moyenne de cette partie, qui repond au petit angle de l'œil ; au lieu de le diriger transversalement, c'est-à-dire, du petit angle au grand, il le conduit obliquement, de manière que la pointe de l'instrument présente la naissance d'une ligne qui doit se terminer à l'aile du nez.

Cette direction, qui est celle qu'on doit donner à tout instrument tranchant, rend la section plus régulière, et offre moins d'efforts dans l'exécution.

Le lambeau fait à la cornée transparente, et l'œil comprimé légèrement, le cristallin rompt la légère barrière qui le fixait, et tombe sur la joue. Dans le cas où la capsule résiste, la pointe d'un instrument grêle, terminée en langue de serpent, passée par la pupile, portée sur le canton antérieur du cristallin, le divise, et ce corps s'échappe par cette ouverture.

L'extraction, pour le général des oculistes, est le terme de leurs travaux. Le malade voit, et distingue les objets. Satisfait de cette opération brillante, et recevant les témoignages

moignages de la reconnaissance, ils s'éloignent, couverts d'une gloire qu'un plus long séjour aurait terni. En effet, les accidens consécutifs, inséparables de toutes divisions faites à des parties douées de beaucoup de sensibilité, donnent lieu à une inflammation plus ou moins générale, qui laisse sur la capsule cristalline des impressions ineffaçable. Cette tunique perd sa transparence, et le malade est frappé de douleur et d'étonnement, en n'appércevant plus les objets qu'il distinguait sans peine l'instant après l'opération.

Ce malheur commun à la majeure partie des opérés, était rejeté sur des causes vagues, qui protegeaient l'opérateur, et le laissaient dans la sécurité. Tel fera l'effet malheureux de la fordide avarice, où les hommes étourdie par le produit que leur procure leur état, cessent de réfléchir, et se bornent aux connaissances qu'ils ont acquises, sans se mettre en peine d'en reculer les limites.

Tel a été le sort de la cataracte : elle a trop présenté à la cupidité, pour laisser quelque chose à la méditation. Il suffisait que le malade avait vu un instant, pour le persuader qu'il dût voir toujours.

La

La cause fécondaire de l'obstacle à la vision, est, comme nous venons de le dire, la suite de l'inflammation de la capsule cristalline; ce qui constitue une maladie que l'on nomme Cataracte Membraneuse. Comme on doit toujours la craindre, il faut toujours la prévenir. Immédiatement après l'extraction du cristallin, on dirigera à la partie postérieure de la capsule, le même instrument qui a servi à la diviser antérieurement, et on l'incisera légèrement, par une section cruciale. Aussitôt l'humeur vitrée remplace le cristallin; dès-lors la pupille se dilate; l'œil est claire, et sans nuages, et le malade perçoit tous les objets qui lui sont présentés.

C'est dans cette section que consiste la perfection de cette operation. Sans elle, l'on ne peut rien éspérer; et, avec elle, on peut certifier, que, sur cent malades, quatre-vingt dix et plus recouvrent la vue.

J'ai démontré plusieurs années cette méthode dans mon amphithéâtre anatomique. Je l'ai exécutée devant les maîtres de l'art et mes élèves. Entre autres exemples, je citerai la domestique de M. Chalon, marchand épiciier, Place St Jean, à Bésançon. Cette fille, âgée de soixante et quelques années, était cataractée

taractée des deux yeux. On lui fit l'opération sur un œil, à la méthode ordinaire ; et sur l'autre, on ajouta l'incision de la partie postérieure de la membrane cristalline. Elle vit dans le moment de l'opération de l'un et de l'autre ; mais elle ne conserva la vue que de l'œil où l'on avait divisé cette membrane.

L'observation anatomique m'a prouvé, que le mode opératoire que je propose, donne une perfection à l'opération de la cataracte inconnue jusqu'à ce jour, par la dissection de des hommes qui avaient subi l'opération de la cataracte par extraction, qui, quoique bienfaite, n'avaient point rempli leur attente, et succombant à des maladies étrangères, j'ai disséqué leurs yeux, et j'ai reconnu que l'obstacle à la vision était dû à l'épaississement de la partie postérieure de la membrane cristalline ; ce qui m'a confirmé dans l'opinion où je suis, qu'en divisant la partie de cette membrane, l'on doit cesser de craindre les accidens consécutifs, si désolans pour un malheureux malade, qui se berce d'une jouissance qu'il éprouve un instant, pour la perdre sans retour.

SECTION III.

MEDICAL NEWS.

A VERY valuable correspondent in London has favoured us with the following interesting particulars respecting Galvanic Electricity. They have been communicated to the learned of London and Paris by Signor Aldini of Bologna, who is at present in the former of these cities. Our correspondent's letter contains the following paragraph :

“ I send you inclosed an account of the experiments of Aldini, which seem to be very interesting indeed ; perhaps more so than any thing in medical philosophy communicated to the public for a century past. If indeed he has shewn that animals and vegetables

getables contain all the parts necessary for the pile of Volta, and that galvo-electric matter is constantly passing from nerves to muscles, and from muscles to nerves, we shall be enabled to explain physically many facts hitherto called ultimate. Aldini has repeated some of his experiments in London, and a fuller exhibition will soon be made. His papers upon this subject will begin to be read at the Royal Society on Thursday next.

“ Account of some new Experiments in Galvano-Electricity.

“ Mr Aldini from Bologna is lately arrived in Britain to visit the learned. He is a nephew of the well known Galvani, and, what is of more consequence, he lived fourteen years in the strictest friendship, and as the assistant of his uncle in instituting the experiments on a branch of philosophy which very justly bears the name of Galvanism, from its inventor.

“ The following account from the Citoyen Français, 26th Vendemaire, 11th year, must afford high gratification to the cultivators of
physiological

physiological galvo-electricity in particular, and to the lovers of natural philosophy in general.

Mr Aldini has repeated his principal experiments in the presence of the Commissioners of the National Institute, and of the Galvanic Society; the result of which is, to demonstrate that there exists an animal pile, as well as circle of galvo-electricity, without any metals.

To show such an animal pile and circle, the following experiments have been made:

1. The sciatic nerve of a frog has been laid bare, in the usual way as for arming, with metals, and the muscular parts, or toes, being brought into contact with the nerves, contractions were excited without any metal.

2. Holding a frog by the toes, or muscular parts, with one hand, the denuded nerves hanging down, he touched with the other hand these suspended nerves, and the contractions took place as in the case of the metallic galvanic circle.

3. A frog was held in the hand of an assistant by the toes or muscular parts, and then another person touching the suspended nerves, there was no effect produced. But if this person

person took hold of the hand of the assistant while he touched the nerves, violent contractions were excited.

These were one set of experiments to shew the circle: the following shew the animal pile.

The trunk of a dog recently decapitated, upon both which and the head many experiments had been made, but neither to shew the circle nor the pile, was employed, in conjunction with a frog. The nerves of the frog were denuded in the manner already mentioned, and these were by one hand brought into contact with the muscles of the dog's trunk, while the fingers of the other hand being thrust into the spinal marrow of the dog, the most violent contractions were excited.

It appears demonstrated by many experiments, that a prodigious number of the operations of nature are performed simply by the movement of the galvo-electric fluid, from the galvanic piles and circles, both on the surface and in the interior of the earth, among minerals, vegetables, and animals. This discovery, especially as far as it respects minerals, belongs originally to Volta.

Mr

Mr Aldini has performed his experiments upon a gigantic style to Bologna, in a way that cannot be repeated in this country, viz. with the heads of the unfortunate sufferers for crimes by the guillotine. But an order of government to give him facility of making trials with a number of recently decapitated oxen, may be furnished very consistently. Aldini will probably publish engravings of his beautiful and surprising experiments on the galvanic circles and piles, if, from his being little acquainted with the English language, he should be unable to deliver explanatory public lectures."

Since the preceding article was communicated to us, we have heard that Aldini has performed many experiments on galvanism at London, before several of the most eminent philosophers. He particularly exhibited some very interesting experiments at the house of Dr George Pearson, in Leicester Square, in the presence of Sir Joseph Banks, and several other distinguished characters. We would fain hope, that a full and accurate account of these will soon be published by himself, either in the Transactions of the Royal Society of London, or in a separate work professedly on the

subject of galvanism ; a subject which unquestionably affords to the medical philosopher a most extensive field for interesting investigation.

* * * *

IN the Annals of Medicine for 1798, we presented to our readers a very full analysis of Dr Currie's interesting work, entitled, *Medical Reports on the effects of Water, cold and warm, as a remedy in Fever and Febrile Diseases, whether applied to the surface of the body, or used as drink*; 8vo. London, 1797. Since the appearance of Dr Currie's publication, this mode of cure in fever, which had before been almost suggested only by Drs Armstrong, Lind, Wright, and other practitioners, has been extensively tried in practice ; and although we will not pretend to say that it has been uniformly followed with a good effect, far less that it will cut short every fever, yet there cannot now remain a doubt, that under judicious administration, it has often been productive of the most salutary consequences. But of all the evidence that has hitherto been afforded of the efficacy of this practice, perhaps the most convincing

cing is that which has lately been printed at London, under the sanction of the very respectable Society established in that city for Bettering the Condition of the Poor. This small, but very important publication, (which, that it may be read as extensively as possible, is sold at twopence, and which we sincerely hope will be perused with attention even by the lowest ranks of the people), is entitled, Extract from an account of cases of Typhus Fever, in which the affusion of Cold Water has been applied in the London House of Recovery. By W. P. Dimisdale, M. D. physician to the Institution for the Cure and Prevention of Contagious Fever in the Metropolis. 8vo. London. Sold by Hatchard, Becket, Cadell and Davies, &c. In a former part of the present volume, we have already presented to our readers an account of the plan adopted by the institution for the Prevention and Cure of Contagious Fever in the Metropolis, in the analysis which we have given of Dr Stanger's publication; and it gives us sincere satisfaction to find that the account of Dr Dimisdale demonstrates the beneficial consequences of this institution. In proof of this we shall here present to our

readers a few of Dr Dimisdale's cases, and shall subjoin to these some observations which he has added on this important subject.

CASE I.—*James Johnson*, aged eight years, caught the infection from his parents, who died of a fever. He was removed on the 19th May 1802, into the House of Recovery. On the 23d of May, (the twelfth day of the disease), the symptoms were as follow:—pulse extremely frequent; tongue covered with a dark fur, and very dry; skin dry. A thermometer, placed under the tongue, arose to 104°: constant and violent delirium. The usual medical treatment not being attended with success, recourse was had to the affusion of cold water. He was taken out of bed, stripped, and a pitcher of cold water was poured suddenly over him: after being wiped, he was replaced in bed. He slept an hour; the skin felt more relaxed; no perspiration, however, followed. May 24. pulse 120; skin dry; heat 100°; delirium continues; no sleep in the night. The affusion was repeated with a pail of cold-water. He again slept quietly; was evidently more collected when he awoke; and soon afterwards

wards a profuse perspiration came on, which continued through the night. On May 27. (the fourth day after the cold affusion had been first used), he was entirely free from fever.

CASE II.—*Thomas Knight*, aged twelve years, was admitted June 16. on the fifth or sixth day of *typhus*. In the afternoon, pulse 116; skin dry, with numerous *petechiæ*; heat 104° ; eyes suffused; violent pain of the head. The cold affusion, with a pail of water, was directed. The pain of the head subsided; he slept quietly, and copious perspiration followed. From this time, the symptoms were favourable. On the 22d, he was free from the disease; on the fourth day after he was removed into the house.

CASE III.—*John Harrogan*, aged twenty-six years, came into the house on July 8. the fifth day of the disease: pulse 120; tongue furred and dry; skin hot and partially moist; delirious at intervals; pain of the head and back. July 9. violent delirium came on in the night; two nurses were unable to keep him in bed. The matron of the house sent for me at five
E e 3 o'clock

o'clock this morning: he was then extremely outrageous; pulse 136; skin hot and parched. He was placed by force under the shower bath, and two pails of cold water were poured instantly over him. The transition from a state of extreme fury, to perfect calmness, was truly surprising. Without an effort of resistance on his part, he was replaced in bed: profuse perspiration succeeded. In three days he had no symptom of fever remaining.

CASE VI.—*George Johnston*, aged fifteen years, came in on the 13th of August. On the 14th (fifth day of *typhus*), pulse 124, heat 98°, slight partial moisture of the skin; the tongue furred, and much general uneasiness. Aug. 15. he has been very delirious in the night, and extremely restless: complains of violent pain of the head; pulse very frequent, tongue furred, rather dry; skin dry, numerous *petechiæ* over the body; heat 103°. The shower bath was immediately used. The pain of the head was instantly removed, but no general perspiration followed. In the evening the headach and the other febrile symptoms returned with nearly the same severity as before. The cold affusion was again used, and he felt
immediate

immediate relief. Copious perspiration very soon succeeded, which continued through the night. He was free from complaint on the 17th, the third day after the first use of the cold affusion.

CASE VII.—*John Beard*, a boy aged eleven years, was admitted on the 21st of August, in the third day of fever, with the usual symptoms: pulse frequent; much thirst; pain of the head and back; the skin rather moist. 22d, Skin dry, heat 103° , pulse 116, tongue furred; pain of the head continues. The cold affusion was directed immediately, and applied again in the evening. He passed the night easily, the skin was partially moist: he had some refreshing sleep. August 23. The skin is now dry; heat 104° ; complains as before of much pain and general uneasiness. He again used the shower bath. In the evening, the skin being dry, and the heat 102° , it was repeated: profuse perspiration came on in the night. 24th, Skin very moist; heat 98° ; pulse 100; tongue slightly furred; says he feels much better. In the evening, during a short absence of the nurse, feeling a slight return of heat and uneasiness, he poured a pit-

cher of cold water which was in the room over himself into the bed. The nurse returning immediately, she removed him to a dry bed ; he slept quietly through the night, the skin moist, and awoke in the morning quite free from fever. The only medicines ordered in this case, were the saline mixture, and small doses of Colombo.

CASE XII.—*Mary Simmons*, aged forty-two years, was admitted November 18. into the house, with the usual symptoms of fever ; the date uncertain. On the 20th, pain of the head exceedingly violent, skin dry, heat $99\frac{1}{2}^{\circ}$. The headach ceased immediately after the cold affusion, the skin became rather moist. On the 23d, the heat again rose to $99\frac{1}{2}^{\circ}$; the skin dry ; copious perspiration followed a repetition of the affusion. She was free from fever on the 25th.

To these cases Dr Dimisdale subjoins the following observations.

It appears unnecessary to relate the other cases in which the cold affusion has been used. In all, the good effects of it have been strikingly manifest, and in no instance has the
disease

disease terminated fatally after the use of this remedy. In the early stages of *typhus*, the affusion, with very little assistance from medicine, appears to cut short the progress of the disease. In the more advanced periods, when the strength of the patient is sufficient to admit the application of this remedy, it moderates the violence of the symptoms, and contributes materially towards a favourable termination. When the strength is greatly exhausted, it may probably be wholly inadmissible. The patients almost invariably expressed great satisfaction, after the agitation immediately following the affusion had subsided. The violent pain of the head, so distressing in fever, is almost constantly and immediately removed, and, generally, quiet sleep succeeds, with moisture of the skin.

Case the 7th furnishes a strong illustration of these remarks. The boy always after the first affusion, went to the bath with perfect readiness, and even solicited its repetition. The almost immediate discovery of the affusion which he had himself practised, prevented any injurious consequences; and it is evident from the report of the following day, that

that the slight exacerbation of fever * which came on in the evening, was completely removed by this application. The feelings of the patient in this instance immediately prompted him to have recourse to the remedy, from which he had before experienced so much relief.

Spring water has been used hitherto without any addition. A shower-bath is placed in the House of Recovery, for the purpose of applying the remedy. It is obvious that the affusion is by this means rendered more complete than by any other mode of application ; it is also neater, and more commodious. Ablution of the body, by sponging with cold or tepid water and vinegar, has been frequently employed with advantage : it is however less effectual than the affusion.

I shall feel peculiar gratification if this short account, by confirming the facts stated in the elegant and truly valuable publication
of

* The reader, who is desirous of information as to the use of the *cold affusion* (or of the *tepid bath*) in cases of *scarlet fever*, is referred to Dr Currie's Medical Reports, p. 60, 61, and 62. ; and to some other parts of that excellent work.

of Dr Currie, should tend to accelerate the general introduction of a remedy so important in the treatment of fever; being fully convinced from the uniform success which has attended the practice, that it may be used with perfect safety in this disease, “ when (to use Dr Currie’s words), there is no sense of chilliness present, when the heat of the surface is steadily above what is natural, and when there is no general or profuse perspiration.”

3d Dec. 1802.

* * * *

Although the use which is now made of cold immersion in fever, may appear to some who formerly inculcated a very contrary mode of treatment to be a hazardous practice, yet we are persuaded, that to practitioners in general it will appear to be in almost any circumstances much less hazardous than the use which has lately been made of cold water in another disease, the gout.

In No. 33. of the Medical and Physical Journal, published by Drs Bradley and Bat-

ty

ty of London, a paper appeared, written by a very ingenious and learned physician Dr Kinglake of Taunton, on the salutary effects resulting from the topical application of cold water in arthritic affections. A theoretical view of the analogy subsisting between gouty, and every other description of inflammation, led him to make trial of its powers. He was, however, very sensible, that although his reasoning might appear to himself to be very satisfactory, it would not be sufficient to overcome popular prejudice. He was therefore determined to lay before the public the result of those trials which he should make : And accordingly, in No. 48. of the same work, a letter from him to the editors is inserted, in which he observes, that amidst a variety of cases in which the topical reduction of temperature rendered much temporary alleviation, but in which a distrust in its safety too much interrupted its use, to afford any decisive testimony on the subject, some examples had occurred to him of its salutary efficiency, in which its employment, to use his own words, was conducted in a manner that warrants placing the results on the records of medical facts.

Accordingly,

Accordingly, Dr Kinglake has subjoined five different cases in which he employed this practice, and in which gout was treated not with the ordinary means, patience and flannel, but with cold water cloths. Of these cases, we shall here present our readers with the third in order, which appears to us to be one of the most interesting. It is thus related in Dr Kinglake's own words.

A gentleman, whose constitutional health had been long subjected to podagral malady at uncertain intervals, and who had been lately benefited by the topical employ of diminished temperature, under my direction, deferred my advice in the earliest stage of an attack, so early, indeed, as to be able to ride a distance of several miles to consult me. The great toe of one foot was then rapidly tumefying, highly heated, and becoming acutely painful. The foot and knee-joints also partook of the irritation.

The affected extremity was ordered to be enveloped in a cloth dipped in a cold fluid, consisting chiefly of water, but unimportantly disguised, both to obviate the probable alarm of the patient, and the *certain dread* of the family

family apothecary, who had distinguished himself as a very *Vulcan* by his *fiery ordinances* in the treatment of gout.

The cold application allayed in a few hours the inflammatory symptoms, and its continuance speedily reconducted the disordered action to the natural motive conditions of ease and health. This patient had never before a fit of the gout that did not confine him for several weeks, and 'if it be allowable to presume, from the incipient violence of the last attack, its progressive and permanent severity would have been at least equal to what had been formerly experienced. Its sudden repression and speedy removal, therefore, evince, in the most satisfactory manner, that arthritic inflammation is indubitably a disease of excessive temperature; that its natural antidote is diminished heat; that this remedy is conveniently applied through the medium of cold water, and that probably the most prompt and efficacious mode of employing it, would be either immersing the affected limb in that fluid, or by incessant affusion with it, until the painful sense of morbid heat should wholly subside.

My

My experience, Dr Kinglake adds, fully warrants me in believing, that this effect would almost invariably happen in the course of a few hours.

To these cases, Dr Kinglake has subjoined two letters written to him by Mr G. Cusance, surgeon at Kidderminster, giving an account, in a general way, of the advantages derived from applying cold water in cases of gout and rheumatism. The testimony of Mr Cusance, in Dr Kinglake's opinion, contributes to verify the correctness of his own observations. And he concludes his paper with the following address to medical practitioners in general.

“ Dr Kinglake presumes, from the original view which he has submitted to the public, in his two papers on the nature and cure of the gout, to request generally his medical brethren to communicate to him any intelligence which correct experience might furnish of the effects of his new mode of treatment, that he might be enabled, at no distant period, to present a mass of evidence competent to determine, beyond all doubt, whether the arthritic patient must continue to be doomed to languish under the lingering and indefinite
torture

torture of an uncontrollable malady, or safely avail himself of a prompt and efficacious remedy.

The conjoint aid of the medical faculty in this investigation is almost indispensably necessary, to countervail the unsurmountable difficulties which would be opposed to a solitary endeavour, by the inveteracy of popular prejudice, against the employ of topical cold in an affection which has hitherto been supposed to require an unremitted increase of both local heat and systematic excitement."

This address of Dr Kinglake's will, we doubt not, bring forward observations from many other practitioners; and it is with us a matter of great doubt, whether these observations will tend to confirm the advantages to be derived from this practice. The following letter, addressed to the Editors of the Medical Journal, has appeared in the 58th number of that publication.

" Gentlemen, Permit me to say, that Dr Kinglake's use of cold water in the gout is not so new and peculiar to himself as he appears to imagine. The illustrious Harvey, discoverer of the circulation, used to plunge his feet into cold water, to mitigate the severity of painful
paroxysms

paroxysms of that disease. It has even been said, that he shortened his life by that practice.

As Dr Kinglake calls loudly upon his medical brethren to communicate any observations which may enable him to make up his mind as soon as possible, the following case, on the authenticity of which he may depend, is much at his service.

The late celebrated Dr Gregory of Edinburgh, father of the present Professor of medicine at that university, was very liable to gout. A friend of the present writer called upon him one evening, and found him bathing his feet in cold water. He observed to the Doctor, that he was doing what he would hardly recommend to his patients. No, said the Doctor; but this application mitigates pain, which I am unwilling to bear, and I have hitherto experienced no bad effects from it. The next morning the Doctor, to the regret of every admirer of science and of professional liberality, was found lifeless in bed.

But why trouble ourselves any farther about the gout? One gentleman can completely pump out the gout from the system in a day or two! and another has discovered a remedy, a few spoons-full of which, will enable a cripple to rise from his bed, and afterwards

dance a hornpipe. Surely one remedy for a disease is sufficient. My only fear is, that unless we can find out some diseases, for which, as yet, there are no remedies, the Faculty must starve.

A CONSTANT READER.

Although, from the conclusion of this letter, it is evident that the writer of it means to treat Dr Kinglake's proposal with ridicule, yet it will naturally be concluded that what he has asserted respecting the late Dr Gregory is strictly true; and if true, it would certainly have been an important fact.

It was indeed a very current report at the time of Dr Gregory's death, that he had been accustomed to bathe his feet in cold water, and had done so the evening before that event took place. But upon the authority of those who had the best opportunities of knowing, we can inform the public, that this report is entirely groundless; that, on the contrary, Dr Gregory, who had often been subjected to severe attacks of gout, was at much pains to keep his feet warm; that he had had no symptom of gout for many months before his death, having enjoyed a much longer interval of health than usual; that on the very day preceding his death, he had dined abroad with some friends, and had supped with his family;

ly ; that he had not bathed his feet the night before he died, and was left by his son (the present Dr Gregory) at half an hour after twelve o'clock, preparing his lecture for next day, and apparently in perfect health ; but was found lifeless next morning ; and that from the undisturbed condition of the bed-clothes, it was concluded he had died without a struggle.

But although the sudden death of Dr Gregory affords no objection against Dr Kinglake's proposal, yet we are very far from asserting that the application of cold wet cloths to a part inflamed and painful from gout, is a safe practice. Although, in some particulars, there be an analogy between the inflammation in gout, and that which arises from other causes, as, for example, from a foot being scalded with boiling water, yet no one can doubt that the two affections differ essentially from each other in some of the most important particulars ; nor will any one deny, that in gout a sudden transition of the pain from one part of the body to another often does take place, and not unfrequently with a fatal conclusion.

Those, therefore, who are of opinion that a cure for gout still remains to be discovered, and who are less anxious for the introduction of new diseases, than for the alleviation of hu-

man misery, will, we are persuaded, be very cautious in trying any experiments for alleviating the pain of gout by the application of cold water.

* * * *

Dr JOHN O'REARDON, who lately graduated at the University of Edinburgh, and who is at present in Paris, in a letter to Dr Duncan, gives him the following account of a very singular case.

An unmarried woman, aged twenty-four years, came to the Hospital attached to the Medical College of Paris, and was there received under the care of Mr Dubois, first surgeon of the Hospital. Her complaint was a loss of speech, under which she had laboured for more than five years prior to her admission. She could cry and laugh in noisy fits, and bursts, but was incapable of the least modification of voice. It was learnt from many of her relations, and from herself, as she could write, that being in a state of general and profuse perspiration on a summer's day, she plunged into a cold bath, after which she was immediately afflicted by a severe fever, which terminated in dumbness.

Mr Dubois having examined her with much attention, could perceive no sign of mal-conformation

conformation in the organs of speech. He then determined to make a trial of burning with moxa, in expectation of deriving some benefit from it; and he executed his purpose a few weeks ago. He applied three of them in succession between the shoulders, during which the patient cried in a most moving manner, but without the articulation of a single syllable, until the end of the operation, when the sounds La, La, were supposed to be distinguished at intervals. She was then permitted to be quiet, and in the mean time was directed to expect a renewal of the same experiment, or the application of a blister to the neck.

On the following day, the surgeon requested of her to give him written information respecting her feelings and her sentiments on the occasion. She accordingly wrote, "That, in her opinion, nothing but the efforts which she would be forced to make during the painful operation of the moxa, would cause the recovery of her speech; that since the commencement of her illness, she never perceived herself so near speaking as during the torture of the late application; and that from a blister she expected to derive no advantage."

On the 8th day, a fresh moxa was applied to the left side of her neck, the burning of which caused the patient to cry with much vehemence; but, in the greatest ardour of her pain, as well as of her convulsive shrieks, she, to the surprize of all present, was heard to pronounce, in a distinct manner, the following words: Pa, Pa, Pa, Mon Papa, Mon Dieu, Ma, Ma, Ma chère Maman. She soon repeated these words, and afterwards spoke many others without difficulty. The moxa was then removed unconsumed; and the poor girl, still in tears, embraced her surgeon with wild transports of joy and gratitude. I had a pretty long conversation with her twenty days after this, and found her then speaking with as much ease as any other woman in Paris.

To explain the success of this operation by theory, is perhaps a matter of some difficulty. But the faculty of speech was probably restored in consequence of the violent action imparted to the muscles and nerves of the part. To a cure having been effected by the burning in this instance, no reasonable objection can, in my mind, be started, unless it be supposed, that she deceived all her friends
and

and acquaintance by an affectation of dumbness during the space of five years ; a deception which, uniformly carried on by a woman for such a length of time, would to me appear much more wonderful than the cure.

Mr Dubois used the moxa with the same success about four years ago, in the case of a woman who became dumb during the suppression of her menses. He is very partial to this cruel remedy, and has often used it with various success in affections of the knee-joint, rheumatism, &c.

* * * *

The following information respecting medical education in France, has been communicated to Dr Monro *junior*, in a letter from a friend of his in Paris, dated the 8th of March 1803.

“ Fourcroy lately presented to the Corps Legislatif, a set of regulations for the studies and graduations in medicine and surgery in France, with a view to rescue the science from the state of anarchy in which it has been since the suppression of the universities.

F f 4

“ According

“ According to this plan, there are to be degrees of Doctor in Medicine and in Surgery conferred by the schools of Paris, Montpellier and Strasburg, after the candidate has studied a certain number of years, and after he has undergone certain examinations, some of which are to be in Latin.

“ There is to be an inferior order of practitioners, termed *Officiers de Santé*, who have not studied at the great schools, but under physicians or surgeons in the country. They are to be permitted to practise in the departments, and are to receive this power from a jury of medical men, which is to be attached to each department.

“ In the last number which has been published of the *Annales de Museum* (the fifth), there is a description by Geoffroy of the electric organ in three different species of fishes. He remarks that an organ analogous to the electric organs, exists in the common skate, and refers to the figures in your father's work on Fishes. It is that part to which the fifth pair of nerves goes, and from which a number of mucous ducts diverge.

“ There is also a paper by Fourcroy on the chemical composition of ants. He has

has found, that they contain the acetous and malic acids in a state of concentration, and that their skeleton is composed chiefly of phosphat of lime, as is the case with the bones of other animals.”

* * * *

Vaccine inoculation is now practised, we may say, almost over the whole world, with uninterrupted success, affording to the children of those who have the good sense to employ it, a certain and easy protection against that loathsome and fatal malady the Small-pox. But it is a melancholy consideration to reflect, how many deaths still happen from the natural small-pox, even where there is the utmost facility of obtaining this safe mode of prevention.

This consideration has induced the humane and enlightened part of the community, in many different situations, to adopt measures for the extension of that blessing which vaccine inoculation affords, to the lower classes, among whom there are many who still are either averse to it, or at least neglect it. Although these measures have not in every instance been productive of all the good consequences

sequences that might have been expected from them, yet there can be no doubt, that on different occasions they have done much good. Very great advantages to the public have, in particular, resulted from the vaccine institution at London, which was set on foot by Drs Pearson, Nihell, Nelson, and other respectable medical practitioners, soon after Dr Jenner's first publication.

This institution at London has been the principal public office, if we may be allowed to use the expression, from which the world at large has been supplied with proper vaccine matter. But although much good may still continue to flow from the regular continuance and proper support of institutions already established, yet much remains to be done before the human race can obtain the full effects of a discovery, which holds out no unreasonable expectation, that the small-pox, which, for many centuries past, has proved one of the most dreadful scourges of mankind, may be completely exterminated. It is therefore with peculiar satisfaction we learn, that an association has been formed at London, under the name of the *Jennerean Institution*, supported by the
most

most distinguished characters, and patronized by the King ; the object of which is the complete extermination of small-pox, by the universal extension of vaccine inoculation.

A numerous and highly respectable meeting of the Jennerean Institution was held at the London Tavern, on Wednesday, the 19th of January 1803, the Lord Mayor being in the Chair. The following Address to the Public was presented to the Meeting by Benjamin Travers, Esq.

“ ADDRESS TO THE PUBLIC.

“ The dreadful havock occasioned by that horrid pestilence, the Small-pox, which, in the united kingdom alone, annually sweeps away more than 40,000 persons, has long been a subject of deep regret to every humane and reflecting mind.

“ The inoculation of this disease has opposed an ineffectual resistance to its destructive career. Although, confessedly, a valuable improvement in rendering the disease more mild, yet such has been the consequence of the partial adoption of the practice, that it appears,

on

on a careful review of the history of the small-pox, that inoculation, by spreading the contagion, has considerably increased its mortality.

A new species of inoculation has at length been providentially introduced by our countryman Dr Jenner, which, without being contagious, without occasioning any material indisposition, or leaving any blemish, proves an effectual preservative against the small-pox.

The House of Commons having investigated this subject with the most scrupulous attention, and being perfectly convinced of the superior advantages resulting from this discovery, have given their sanction to the practice; the safety, mildness, and efficacy of which more than half a million of instances have fully confirmed.

The unspeakable benefits which may be expected to arise from an extensive diffusion of this salutary practice, will be much accelerated by the establishment of an institution in the central part of the metropolis, on a broad basis, supported with a spirit equal to the design, and worthy of the character of the British nation. And when the magnitude of the object

is considered, which is no less than to eradicate a disease, acknowledged to be the greatest scourge that ever afflicted mankind, there can be but one sentiment on the subject.

The enlightened, the benevolent, the opulent, will doubtless vie with each other in the zealous support of an undertaking which will reflect the highest honour upon their country ; and by saving millions of victims from an untimely grave, prove an inestimable blessing to the whole human race.”

The Right Hon. the Lord Mayor having read the address from the chair, it was moved by Dr Letsom, and seconded by Dr Bradley, ‘ That the address be received and adopted.’ Which was carried unanimously.

A motion having been made by Mr Gurney, and seconded by Joseph Leaper, ‘ That this meeting do form itself into a society for the extermination of the small-pox.’—

The Hon. Admiral Berkley arose and said, “ That he had it in command from his Royal Highness the Duke of Clarence to apologize to the meeting for his non-attendance, he having been unavoidably prevented from doing himself the pleasure and the honour of attending on the present interesting occasion ;
but

but that his Grace the Duke of Bedford held a motion in his hand, which, had his Royal Highness been present, he himself would have made.'

On this the Right Honourable Chairman observed, that a motion had already been made and seconded ; and that, consequently, it must first be disposed of.

The Honourable Admiral acknowledged the propriety of the observation, but said, that the motion was proposed as a tribute of esteem to a Benefactor of the World, and that if the previous motion could, for the moment, be waved, and the wish of his Royal Highness be acceded to, the honour intended, if voted, would be greater coming from a popular assembly, than if it were conferred by any organised society.

Mr Gurney, on this, immediately offered priority to the wish of his Royal Highness ; when,

On the motion of his Grace the Duke of Bedford, at the special request of his Royal Highness the Duke of Clarence, seconded by the Honourable Admiral Berkeley,—It was

Resolved unanimously, That the thanks of this meeting be transmitted to Dr JENNER, expressive

expressive of the high sense which it entertains of his merit, and the great importance of his discovery ; and, particularly, for the liberal offer of his assistance to accomplish the great object it has in view.

Mr Gurney's motion, That this meeting do form itself into a Society for the Extermination of the Small-pox, was then carried unanimously.

On the motion of J. J. Angerstein, Esq; —It was

“ Resolved unanimously, That a subscription be now opened, to prosecute the laudable intentions of the Society.

“ Resolved unanimously, That the following three gentlemen be appointed trustees, viz. the Right Honourable the Lord Mayor, John Julius Angerstein, Esq; and Benjamin Travers, Esq;

“ Resolved unanimously, That a committee be now appointed for considering of and forming a plan for the purpose of carrying into effect the important object of this society, with liberty to add such gentlemen as they may think proper ; that five be a quorum, and that they report the same to another general meeting to be called by them.

The

The committee having been nominated, it was

“ Resolved unanimously, That the thanks of this society be given to the Governors and Officers of the Small-Pox Hospital, for their very liberal offer to co-operate in the purposes of this society.

“ Resolved unanimously, That the thanks of this Society be given to the Right Honourable the Lord Mayor, for his respectful attention, cordial support, and able conduct in the Chair.

“ Resolved unanimously, That all the Bankers of London, Westminster, and Southwark, and the Members of the Committee, be requested to receive subscriptions.”

We are informed, that upwards of L. 1000 was very soon subscribed for the support of this Institution; and that the Trustees and Committees are employed with very great zeal in carrying into effect the resolutions of the general meeting. But it is not by the efforts of one society, or even of one nation, that a complete extermination of the small-pox is to be expected. This can hardly be accomplished, without the united efforts of the whole world. It must, however, afford

real

real satisfaction to every benevolent mind to reflect, that every judicious measure for the extension of vaccine inoculation will have some influence in diminishing the mortality from the natural small-pox.

* * * *

The extension of those benefits, which may arise from Vaccine Inoculation, is a subject which has by no means been neglected at Edinburgh. Soon after the establishment of the Vaccine Institution at London by Dr Pearson and the other gentlemen already mentioned, the Managers of the Public Dispensary of Edinburgh appointed two surgeons, viz. Dr William Farquharson and Mr James Bryce, for gratuitous inoculation at that charitable establishment; and that our readers may be informed, not only of the success which has already attended their endeavours, but also of their future plans for accomplishing a most important object, we shall here present them with the annual report from this charitable establishment, which was published in the Edinburgh newspapers about the beginning of February last.

ANNALS OF
PUBLIC DISPENSARY
AND VACCINE INSTITUTION
OF EDINBURGH.

AT the Annual Meeting of Contributors to the Public Dispensary, held on Saturday the 29th of January, the following Noblemen and Gentlemen were appointed to superintend that Charitable Establishment for the year 1803.

PRESIDENT,

His Grace the Duke of MONTROSE.

VICE PRESIDENTS.

The Right Hon. the Earl of LAUDERDALE.

The Hon. HENRY ERSKINE.

LORD ELCHO.

ADAM ROLLAND, Esq; Advocate.

MANAGERS.

John Erskine, Esq; of Mar,

Richard Douglas, Esq;

Walter Watson, Esq;

* Lord Craig,

* The Rev. Dr Davidson,

The

The Rev. Dr Finlayson,
Mr T. Hutchison, merchant,
James Marshall, Esq;
Mr John Peat,
* Mr James Kettle.

Sir James Stirling, Baronet,
Mr Thomas Cleghorn, coachmaker,
Donald Smith, Esq;
William Fettes, Esq;
* Alexander Kinnear, Esq;

Dr Wright,
Mr Andrew Wood, surgeon,
Mr James Law, surgeon,
Dr Monro *junior*,
* Dr James Hamilton *senior*.

COMMITTEE FOR VACCINE INOCULATION.

Dr Monro, <i>sen</i> .	The Rev. Dr Baird,
Alex. Wood, Esq;	Jo. Wauchope, Esq;
* Lord Dunfinnan,	

Those marked with an asterisk are new Managers.

PHYSICIANS ATTENDING IN ROTATION.

Dr Andrew Duncan *senior*,
Dr Thomas Gillespie,
Dr Charles Stuart,
Dr James Home,

Dr John Yule,
Dr Thomas Spens,
Dr James Buchan,
Dr Andrew Duncan *junior*.

SURGEONS FOR INOCULATION.

Dr William Farquharson,
Mr James Bryce.

SECRETARY,—William Inglis, Esq; W. S.

TREASURER,—G. Kinnear, Esq; Banker,

APOTHECARY,—Mr William Moffat.

From the Register of Practice at the Dispensary it appears, that 29,287 indigent persons have been supplied with advice and medicines gratis, at this Charity, since its commencement in November 1776. Of these, 1752 have received aid, during the course of last year, many of whom, it is to be observed, were once in a situation which enabled them to relieve the wants of others, although now reduced to such circumstances, as to receive, with the most grateful acknowledgments, that assistance the Dispensary affords.

The Managers hope that the support of the benevolent will enable them to continue this Charitable Establishment on the same extensively useful footing on which it has been conducted

conducted for some years past. And there are few ways in which a small donation will go a greater length in the relief of the distressed.

From the register for Vaccine Inoculation, it appears that 1180 Children have been vaccinated at the Dispensary ; and have by this means, without the smallest inconvenience either to themselves or their parents, obtained complete protection against the Small-Pox.

A Report was presented to the Meeting by the Surgeons, not only giving a state of facts respecting Vaccine Inoculation at Edinburgh, but pointing out many other advantages which had also resulted from this institution, and particularly that of supplying proper vaccine matter to practitioners at a distance from Edinburgh. In this report, also, several particulars were suggested, by due attention to which, there was reason to hope that the public at large might derive very essential benefit.

In consequence of this report, it was unanimously agreed, that it should be recommended to the Committee for Vaccine Inoculation, to draw up a Memorial on that subject, addressed to the Clergy through Scotland ; and that in this address, they should

state to them, the three following particulars:

“ 1st, That they should demonstrate the great probability, that the Small-Pox, from which it is computed that at present 40,000 lives are annually lost in Britain, might, by proper exertions, be completely exterminated.

“ 2^d, That they should point out to the Clergy, how much it is in their power to forward the accomplishment of this important and desirable object.

“ 3^d, That they should inform the Clergy, that vaccine matter will be transmitted to any of them by post, from the Dispensary at Edinburgh, as soon as it can be properly obtained after application shall be made for it.”

The Ministers and Elders of every Congregation by whom a collection is made for the support of the Dispensary, are intitled to recommend patients either for general practice or vaccine inoculation, for the space of three years after the collection is paid into hands of the treasurer.

During the course of the year 1802, contributions for the support of the Dispensary have been received, not only from the ten parishes of the Established Church in the City
of

of Edinburgh, but also from the following places of public worship:

Parish Church of North Leith; West Church; Chapel of Ease; Newton; Canongate; Dalkeith; Collington; Episcopal Chapel, Cowgate, Charlotte Street, Drummond Street, Blackfriar's Wynd; York Place; Roman Catholic Chapel; Mr Colquhoun's Chapel, Leith; Mr Struthers' Chapel, College Street; The Tabernacle, Leith Walk; Baptist Congregation, Niddry's Street; Independent Congregation by Mr William March.

Besides these, there are many other Congregations in Edinburgh, and the neighbourhood, the indigent members of which receive assistance at the Dispensary. There is therefore reason to hope, that collections will soon also be made at these places of public worship, for the support of useful Charity.

“ A legacy of One hundred pounds left to the Dispensary by the late Lady Christian Græme, was paid to the Treasurer last year, and has been vested in the public funds; as it is an established rule with the Managers, to employ only the interest of money left them in legacies, for the annual support of the institution, by which means, legacies to this in-

stitution will not only be useful to the present generation, but also to posterity.

Individuals who contribute One Guinea to the funds of the Dispensary, are thereby entitled to recommend patients, and to hold the other privileges annexed to the rank of Governor of the Dispensary, for the space of one year after the payment is made; and those who contribute Five Guineas, are Governors for life.

Those who choose to become annual subscribers to the Dispensary, for any sum not less than Five Shillings, may send their names to Mr Moffat, Apothecary at the Dispensary, by whom receipts will be sent them for such annual subscriptions, every year about the beginning of February.

Contributions are received, and receipts granted, by George Kinnear, Esq; Banker, Treasurer to the Dispensary, at his Counting-house, Royal Exchange, where may be seen a complete list of all the contributors to this charity.

The address to the Clergy of Scotland, mentioned in the above report, will soon be ready for distribution, and will, we trust, be
productive

productive of no inconsiderable national as well as individual benefit. If the Clergy of all persuasions in Britain could be properly roused, vaccine inoculation in a few years might become as common with infants as the ceremony of baptism. Any clergyman, after performing that ceremony, may now with confidence say to any parent :

“ If this child die of the natural small-pox, you alone will be to blame for its death ; because you possess a safe, easy and effectual method of protecting it against that fatal disease.”

* * * *

Dr JOHN NELSON SCOTT, of the Isle of Mann, in a letter to Dr Duncan, gives the following account of the introduction of vaccine inoculation into that part of the British dominions.

“ With the rest of my brethren, I rejoice at the speedy prospect of the disappearance of the small-pox, and I feel great gratification and pleasure in being able to say, that after many obstacles to my endeavours, from ill-grounded fears and reports, I have succeeded

in

in introducing the cow-pox into the Isle of Mann.

Several children of the most respectable inhabitants have been inoculated, and went through the process, for it does not merit the name of a disease, with the customary mildness. These children were afterwards inoculated with variolous matter, as a salvo to the minds of anxious parents, but all of them resisted its influence.

When I consider how very lately inoculation for the small-pox has become at all general in this island, I have reason to be much satisfied with the progress I have made in the substitution of a new malady, more terrible in name than the horrible disorder it is meant to supplant. But I think I foresee that my difficulties will every day become less in proportion as the many advantages arising from the cow-pox are more generally known and extended.

On my father's arrival in the Isle of Mann, in the year 1772, inoculation for the small-pox was hardly practised among the first families in the island.

I beg leave to take this opportunity of returning my most sincere acknowledgments,
for

for the many marks of attention which were shewn me some time ago when in London, by different promoters of vaccine inoculation, particularly by Dr Jenner, by Dr Pearson, and other gentlemen of the Vaccine Institution, and by Dr Woodville, of the Small-pox Hospital.

From much observation and experience, I am fully satisfied of the propriety of attending to what Dr Jenner has laid down as a golden rule, viz. never to use the cow-pox virus after the formation of the efflorescence around the pustule has taken place. I think I have seen some scrofulous appearances put on a more benign aspect after the patient had passed through the vaccina.

What is the best mode of performing the trifling operation requisite for introducing the vaccine virus, I will not pretend to determine; but from what I have seen of the practice of others, and from what has occurred to myself, I am persuaded, we shall either be successful or not in communicating the contagion, according to the plan we adopt.

From the virulent nature of the variolous matter, practitioners seldom fail in communicating contagion by it, in whatever manner
it

it be used. But this is not the case with the vaccine matter, which, from its mild nature, we may inoculate with, once, twice, or thrice, and even oftener, before we can communicate the disease.

I have for some time followed the plan pointed out to me by a friend in London, whom I had an opportunity of seeing inoculate several hundred cases, and who very rarely failed. His method is by making very quickly a small oblique puncture, so as to draw blood; but before the blood appears on the surface, he touches the little wound with the sides of the infected lancet. At the distance of an inch or so from the first puncture, he commonly makes a second in the same manner.

This method of inoculating is, in his hands, as quick as it is certain; and I must confess, that while I would be fully employed in inoculating six children in the usual way, he would inoculate four times the number. What I have said respecting this mode of inoculation, goes upon the supposition that the operator has the advantage of fluid matter in the same room with himself.

With the view of furthering the intentions of medical men in their laudable and disinterested
endeavours

endeavours to propagate the vaccina, it would perhaps be well if the heads of the Church were to lend their aid in so truly laudable a work, by instilling into the minds of their flocks the safe and salutary nature of the operation, and by dwelling with particular energy on the dreadful consequences of the small-pox. Such an exhortation might be delivered even in the form of a prayer from the pulpit. Something of this kind I understand has been done in Lancashire, and has tended very much to facilitate the wishes and exertions of the surrounding practitioners in their endeavours to extend the benefits of vaccine inoculation."

From what we have formerly said, the reader will readily conclude, that we agree perfectly in opinion with Dr Scott as to the very great benefit which would arise from such a recommendation from the Clergy. And we confidently hope, that the address which is intended to be presented to the Clergy of Scotland by the Committee for Vaccine Inoculation at Edinburgh, will have no inconsiderable influence in calling forth their exertions when a proper opportunity presents itself. According to circumstances, the recommendation,

mendation of the Clergy will have most effect sometimes when given in a public manner, and at other times when given in private. Of the best mode and time, therefore, every clergyman who is anxious to save the lives of his parishioners, by promoting vaccine inoculation, must be left to judge for himself. But we cannot omit this opportunity of mentioning a method which was followed by a respectable clergyman in one of the Orkney islands with the happiest effect. After concluding the whole of the public worship in the usual manner, he mentioned from the pulpit, that on a particular day which he specified, he expected a surgeon from the Mainland, with cow-pox matter to inoculate his children at the parsonage-house ; and that although he was desirous of leaving every parent to judge for himself, yet, if any of his parishioners should choose to follow his example, their children might be inoculated for cow-pox at the same time, and in the same manner with his own children. The consequence of this simple intimation was, that almost the whole children of the island who were still in danger from the Small-Pox, were on the appointed day brought to the manse, and inoculated with the happiest success.

Since

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Since the publication of our last volume, no disease has claimed more attention from medical practitioners than the *Influenza*, which has raged very generally in many different parts of Europe, but particularly in Paris, in London, and in Edinburgh. We need hardly mention, that in newspaper paragraphs, and in vague conversations, many groundless and absurd stories have been circulated respecting it. Thus, among other particulars, it has been currently reported, that in the city of Edinburgh in one day, about the beginning of April, no less than an hundred patients were buried, all of whom died of the influenza; and that in one day about the end of March, one gentleman, in extensive practice, had been called to no less than one thousand patients labouring under this disease. But although our readers will readily conclude, that in these reports there has been a wonderful degree of exaggeration, and we can assure them from good authority, that, at the present period, the greatest number of deaths from all diseases put together in Edinburgh, has never exceeded a hundred in any

one

one week ; yet it is an undoubted fact, that since the beginning of March, the influenza has been both a frequent and sometimes a fatal disease in Edinburgh.

But if exaggerated accounts have been given respecting the frequency and fatality of this complaint, no less groundless and wonderful stories have been propagated by ignorant or designing men respecting its nature and peculiarities. It has been represented by some, who ought to know better, as a new and most tremendous disease, which, unless happily remedied by a peculiar mode of treatment, will prove certainly fatal. But we need not observe to the candid reader, that such reports have no other foundation but the weakest credulity, or the lowest artifice.

The Influenza, as it has appeared in Edinburgh in 1803, is precisely the same disease which has extended itself at different periods for near a thousand years past over almost the whole of Europe. We may refer those who wish for the most particular account of the authors who have described it, as appearing at different periods, to the *Nosologia Methodica* of Dr Cullen, under the genus *Catarrhus*. But we shall here present our readers with a short view of these Authors, in chronological order,

order, as giving descriptions of different epidemics.

- Anno* 1323. Targioni Tozzetti.
 1358. Idem.
 1387. Valescus de Taranta.
 1510. Valleriola.
 1575. Riverius.
 1580. Hænischius.
 1591. Sennertus, Pechlin.
 1658. Willis.
 1675. Sydenham, Raygerus.
 1679. Sydenham, Zodeus.
 1708. Schroeckius.
 1709. Hoffman.
 1712. Camerarius.
 1729. Scheuchzer, Winteringham.
 1732. Hillary, Huxham.
 1737. Rutty,
 1742. Huxham, Rutty, Juch.
 1748. Cleghorn.
 1758. Whytt.
 1762. Baker, Monro.
 1767. Heberden.
 1775. Fothergill.
 1782. Monro, Gray.

From these authors, those who wish to be acquainted with the variety of appearances which this disease has put on during different epidemics, and during different periods of the same epidemic, may receive the most full and authentic information ; and it is to be hoped, that some author who has been an attentive observer of the present epidemic in his own practice, will transmit to posterity a particular account of the influenza, as it has appeared in Britain in 1802-3. Indeed, one ingenious gentleman, Dr RICHARD PEARSON of London, is already engaged in collecting materials for this purpose ; and we sincerely hope, that the liberality of other practitioners will second his efforts. He has already published a short Treatise, dated 12th March 1803, entitled “ Some Observations on the present Epidemic Catarrhal Fever or Influenza, chiefly in relation to the Mode of Treatment ;” and since that, he has distributed among his friends the following circular letter :

“ S I R,

“ It being my intention to publish a continuation of Observations on the Epidemic Catarrhal

Catarrhal Fever, or Influenza, which has for some time been so prevalent in the metropolis, and which has since showed itself in other parts of the kingdom; I take the liberty of sending you the following Queries relative to this disorder, and shall consider myself greatly obliged by an early answer to them; presuming you will have no objection to my inserting them with those from other Correspondents in my second publication on this subject, which I am now preparing for the press. I am, Sir, very respectfully yours,

RICHARD PEARSON, M. D.

Bloomsbury Square, }
March 31. 1803. }

“ 1. At what time did the Influenza first show itself in your town and neighbourhood?

“ 2. Whether it is *generally* accompanied with symptoms which denote high inflammatory action.

“ 3. What proportion, in your practice, the pneumonic cases have borne to those in which there was no apparent inflammation in any part of the chest?

H h 2

“ 4. Whether

“ 4. Whether the pains of the limbs, of which almost all these patients complain, have not more affinity to those which are often observed in typhus and other malignant fevers, than they have to the pains which accompany acute rheumatism.

“ 5. Whether there be not generally more or less disturbed action of the stomach and bowels? And what appearances are most common in the feces?

“ 6. Whether the complaint does not frequently go off, without any considerable expectoration?

“ 7. Whether it appears to be infectious? And if so, how soon the contagion operates upon a person that has been exposed to it?

“ 8. What are the appearances usually observed on opening the bodies of those who have died of this disorder?

“ 9. Whether, even in those cases in which there is pneumonic inflammation, the patients bear copious and repeated blood-letting, as they do in a simple pleurisy or peripneumony? or, Whether the degree of inflammatory action which takes place in this disorder does not frequently yield to the combined operation

tion of antimonials, calomel and blisters, without the aid of the lancet ?

“ 10. Whether profuse and long-continued perspirations, procured by keeping the patients warm in bed, and giving them strong sudorifics, are not generally hurtful ? And, on the contrary, Whether, after the second or third day, keeping the patient out of bed and under a cool temperature, does not expedite the recovery ?

“ 11. Whether copious evacuations by stool, and the repeated employment of calomel, do not universally afford great relief ?

“ 12. Whether full doses of opium, given on the first days of the attack, with a view to appease the cough, are not manifestly hurtful ?”

To these queries by Dr Pearson, two others might, we think, be added, which, in our opinion, are of considerable importance, particularly as tending to ascertain the comparative mortality of this disease when contrasted with other acute complaints, both by itself and by its consequences.

1. What number of patients labouring under influenza have you had under your care, and how many of these have died ?

H h 3

2. If

2. If you have observed any dangerous or distressing sequelæ arising from this disease, What have these sequelæ been? What remedies have you found most effectual in combating them, and in what proportion have they proved fatal?

We would fain hope, that the information which Dr Pearson may obtain in consequence of this circular letter, will enable him to draw up as full and as accurate an account of the present epidemic as former writers have done of preceding ones, and that the influenza of 1803 will add some improvements both to the history and practice of medicine.

In the ninth volume of the Edinburgh Medical Commentaries, of which these Annals are a continuation, the reader will find some interesting information respecting the epidemical catarrh of 1782; and we hope, by the aid of intelligent correspondents in different quarters, to present to the public some authentic and important facts respecting the present epidemic, both as it has appeared at Edinburgh and other places.

Proposals

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Proposals have been circulated for publishing by subscription a Course of Lectures on Zoonomia, or the Laws of Animal Life, by the late THOMAS GARNETT, M. D. Member of the Royal College of Physicians, London, Honorary Member of the Board of Agriculture, Fellow of the Linnæan Society, Member of Royal Irish Academy, of the Literary and Philosophical Society of Manchester, of the Medical Society of London, of the Royal Medical Society of Edinburgh, &c. formerly Professor of Natural Philosophy and Chemistry in the Royal Institution of Great Britain.

This work, as the proposals announce, is printed for the benefit of the author's children, at the press of the Royal Institution, and is dedicated by permission to the Right Honourable the Managers of that Incorporation. From lists of subscribers which have been printed in different newspapers, we are happy to find, that this undertaking has met with very liberal support from many of the most eminent and respectable members of the Royal Institution.

But we trust, that the benevolent efforts of the institution will be properly seconded by the generosity of the public at large. Indeed, the children of Dr Garnet may be considered as having some claim both upon the justice and gratitude of the public. The following address to the Patrons of Science and Friends of Humanity, which is printed with the proposals, will, we trust, have due influence with many.

“ When the exertions of an individual are directed to the general diffusion of knowledge, the improvement of useful arts, and the promotion of social happiness, he obtains, in case of his ultimate success, a degree of respectability which is honourable to himself, and advantageous to those who are connected with him. But if, through no fault of his own, he fails in acquiring that situation in life to which he has entitled himself; if, by a premature death, he is cut off before he has secured a competent independence for his family; his case becomes eminently entitled to public attention and relief.

Such a man was the late Dr Garnet, and such, unfortunately for two orphan children, was his end. He had exerted himself with
the

the most unremitting zeal in every department of his arduous employments. He had sacrificed his time and his property to expectations of future advantage to himself and to the public ; and at the moment that his labours had offered to him the most flattering prospect of indemnification and success, a fever, caught in the gratuitous exercise of his profession, deprived him of all his hopes, and left his family destitute.

To give some relief to the distress, which his children are too young to feel in all its extent, and to provide a fund for their future support, in an humble but independent station, is the object of the present subscription. Besides the intrinsic merit which the work now to be published must be allowed to possess, those who are disposed to contribute to the fund which is to be raised, will perhaps not dislike to have in their possession some little memorial of their own benevolence, and of their respect to the memory of a man, whose private virtues made him as amiable in society, as his literary labours rendered him useful to science."

In the course of lectures now to be published, a view is given of the animal economy, and the laws by which its different functions are regulated with the methods of preventing
and

and curing diseases. The principal object has been, to render this course interesting, not only to students of medicine, but to all who think the study of the human frame a subject worthy of their attention.

Subscriptions for this work are received by several of the most eminent bankers in London, and by Mr Savage, at the house of the Royal Institution, in Albemarle Street. While we sincerely wish all success to this benevolent undertaking, we cannot help thinking, that it might have added somewhat to that success, if some respectable banker had been appointed to receive subscriptions in every large town in Britain, particularly in Dublin, Liverpool, Glasgow, Edinburgh, and Manchester, where Dr Garnet had many personal friends.

* * * *

The new edition of the Edinburgh Pharmacopœia, which we mentioned in our last volume, and which has been in the press for near twelve months past, is now almost entirely printed off, and will probably be published in a very short time. The numerous alterations which have been made, particularly in the nomenclature, will not probaby meet with universal approbation, especially among those

those who wish to enjoy all the emoluments of the profession with as little trouble to themselves as possible. But from the labour which the Committee have bestowed in giving a full and accurate table of the *Nomina Nova* and *Nomina Mutata*, each arranged in alphabetical order, even those practitioners who are the most indolent, and the most wedded to absurd and unmeaning names, will have little difficulty in discovering by what appellations their former favourites are now to be known. While those, again, who wish to have a precise knowledge of the articles which they employ in the practice of medicine, and who wish to use names which will aid them in acquiring that knowledge, will, we are persuaded, be highly gratified by the alterations which have been made in the nomenclature, as well as by many other changes which have been introduced into the present edition of the Edinburgh Pharmacopœia. Upon the whole, we have little doubt in asserting, that this edition of the Pharmacopœia Edinburgensis, will be considered by the intelligent Pharmaciaan as the best Pharmacopœia in Europe now extant; and we flatter ourselves, that it will operate as a stimulus with other Colleges

Colleges to improve the standards of pharmaceutical practice in those countries over which their jurisdiction extends.

* * * *

We announced in our last volume, that the new edition of the Pharmacopœia Edinburgensis would probably soon be followed by a new edition of the Edinburgh New Dispensatory; and we are happy in being able to say, that this work has now made very considerable progress. As the revision of the former editions, published by Dr Webster in 1785; by Dr Duncan *senior*, in 1789; and by Dr Rotheram in 1794, has been undertaken by a Fellow of the Edinburgh College, who was regularly furnished with each sheet of the New Pharmacopœia as it was thrown off, and who had an opportunity of being fully acquainted with the reasons which led to the changes which have been adopted, the printing of these two works has been going on at the same time; and Messrs Bell and Bradfute, booksellers in Edinburgh, - who are the publishers of the present, as well as of several former

former editions of the Pharmacopœia Edin-burgenfis, will probably in a few weeks pre-fent to the public an edition of the Edin-burgh New Difpensatory, in which the can-did and intelligent reader will find many im-portant alterations, corrections and additions.

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Some papers written by Dr ALEXANDER MONRO *junior*, on the fubject of Crural Her-nia, were read at a meeting of the Royal So-ciety of Edinburgh, in April 1802. In place of publishing thefe papers in the Tranfactions of the Society, Dr Monro, for feveral very good reafons, has refolved to preſent them to the world under the form of a ſeparate publi-cation. They are now very confiderably ex-tended ; they have been in the prefs for ſome time, and will ſoon appear under the title of Obſervations on Crural Hernia ; to which is prefixed a general account of other ſpecies of Hernia.

This work will be illuſtrated by ſeveral en-gravings.

The

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The high expectations which were entertained of the system of Chemistry by Dr THOMAS THOMSON of Edinburgh, which was in the press when our last volume was published, have, we believe, been fully realized. The first impression is already almost entirely sold off; and a new edition, with many improvements, will probably soon appear.

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The work on Anatomical Nomenclature, which we formerly mentioned had been undertaken by Dr BARCLAY, teacher of Anatomy in Edinburgh, and in which he endeavours to establish that Nomenclature on certain and rational principles, has not yet been published. But it is now nearly printed off, and will probably appear in a short time.

* * * *

In our Volume of Annals for 1801, we had occasion to mention a work on the diseases of children, undertaken by Dr JOHN CHEYNE,
Fellow

Fellow of the Royal College of Surgeons in Edinburgh, in which he proposes, under the form of separate essays, to treat of the most important affections to which children are subjected, and to illustrate them by cases and dissections. We have already presented to our readers, an analysis of his first essay, on the Cynanche Trachealis or Croup. In that essay, as we formerly observed, the reader will find many important practical observations, and an illustration of the real nature of the disease by several plates, which do great credit both to the dissector, the painter and the engraver.

In the prosecution of this important undertaking, Dr Cheyne has now published a second essay, which treats of the Bowel Complaints more immediately connected with the biliary secretion, and particularly of the atrophía ab lactatorum. Of this essay we propose to give an analysis in a future volume; and we are happy in being able to mention, that from the industrious exertions of the ingenious and intelligent author, essays on other important diseases may soon be expected.

We

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We have repeatedly mentioned, on former occasions, the intention of publishing the Chemical Lectures of Dr BLACK. We are now happy to say, that the work is far advanced, and will probably appear in a very short time.

* * * *

Dr E. G. CLARKE of London, one of the physicians to the army, who published in the year 1800, a second edition of his very useful little work, entitled, "*Medicinæ Praxeos compendium, Symptomata, Causas, Diagnosin, Prognosin, et Medendi Methodum exhibens,*" has in the press a larger work, written in English, on the Practice of Physic, which will probably soon be published; and from the judicious manner in which Dr Clarke has already written on this subject in his Compendium, we have no doubt that this new work will be an acceptable publication.

* * * *

A prospectus of a new abridgment of the Philosophical Transactions of the Royal Society of London, has lately appeared in several newspapers. This abridgment is to be executed on a new and uniform plan, not by one individual, but by a society of eminent men. Among others, we are informed that the Mathematical Department, including Astronomy, Geometry, Optics, Mechanics, &c. will be undertaken by Charles Hutton, L.L.D. F. R. S. Mathematical Professor at Woolwich; the department of Natural History, including Zoology, Botany and Mineralogy, by George Shaw, M. D. F. R. S. and F. L. S. of the British Museum; and that of Medicine, including Anatomy, Physiology, Chemistry, &c. by Richard Pearson, M. D. F. S. A. of Bloomsbury Square.

From the well-known abilities of these gentlemen, we cannot entertain a doubt that the present abridgement will furnish a very valuable addition to the libraries of those who are not possessed of the original work. We hope, however, we shall be excused for

suggesting, that, in our opinion, the value of this abridgment would be much increased by occasional critical remarks on the merit or demerit of particular papers. We would not indeed recommend, that the learned compilers of the present work should in this particular follow as their model the Review of the works of the Royal Society of London, published about half a century ago, by that Prince of Empyrics, Sir John Hill, in which many of the papers are lashed with the most severe ridicule, and sometimes not without good reason, not merely in his chapter on miracles, but in those also on medical cases, animals, minerals, &c. But a few short and candid remarks, pointing out the progress of science, on the subjects treated of in particular papers, would, we are persuaded, be highly gratifying to most readers.

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Since the publication of our last volume, the world has been deprived of those eminent medical practitioners, whose names are mentioned in the annexed list. It was our intention to have given a short account of each,
and

and of their principal publications. But this would far exceed the usual limits of our annual volume. We have therefore now resolved to delay these accounts for insertion in our next volume ; and we even flatter ourselves with the hope that this delay may be attended with some advantages, as it will enable us to obtain more full and authentic information respecting some of them, than we are possessed of at present.

1802. Jan. 29. George Wallis, M. D.

Feb. 20. John Moore, M. D.

Mar. 16. Thos. Arch. Murray, M. D.

Apr. 18. Erasmus Darwin, M. D.

———28. James Johnstone, M. D.

———24. Jas. Mackitrick Adair, M. D.

May 25. George Fordyce, M. D.

June 9. Donald Monro, M. D.

———28. Thomas Garnet, M. D.

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In the year 1802, Dr James Robertson has been admitted a Fellow of the Royal College of Physicians of Edinburgh. Dr James Bremner, Mr James Brown, Dr Robert Robertson, Dr George Kellie and Mr Patrick Erskine

have been admitted Fellows of the Royal College of Surgeons. William Porter, Esq; Colonel David Robertson, Francis Gregor, Esq; and Sir W. Ouseley, have been admitted Members of the Royal Society of Edinburgh.

SEC.

SECTION IV.

LIST OF NEW BOOKS.

AN Account of the Galvanic Experiments Performed by Professor Aldini, on the body of a Malefactor lately executed at Newgate, with a short View of other Experiments.

A series of Engravings, accompanied with Explanations intended to illustrate the morbid Anatomy of the most important Parts of the Human Body. By Mathew Baillie. Fasc. 9. and 10. 4to. London. 1802.

Hygeia ; or Essays Moral and Medical. By Thomas Beddoes, M. D. 3 vols. 8vo.

The Anatomy of the Human Body, vol. III. Part 1, containing the Anatomy of the Brain, and Description of the Course of Nerves. By Charles Bell. With Plates. 8vo. Edinburgh. 1802.

The Anatomy of the Brain explained, in a Series of Engravings, beautifully coloured, with a Dissertation on the Communication between the Ventricles of the Brain. By Charles Bell. 4to. Edinburgh. 1802.

A Treatise on the Cox-Pox, by George Bell. 12mo. Edinburgh. 1802.

The Outlines of the Veterinary Art. By Delebre Blaine, Professor on Animal Medicine. 2 vols. 8vo. London. 1802.

An Essay on the Structure and Formation of the Teeth, in Man, and various Animals. By Robert Blake, M. D. 8vo. With nine Plates. London. 1802.

Facts and Observations respecting the Air-Pump and Vapour Baths, in Gout, Paralysis, Rheumatism, Palsy, and other Diseases. By Ralph Bleghborough, M. D. 12mo.

The Medical and Physical Journal, conducted by T. Bradley, M. D., R. Batty, M. D., and A. Noehden, M. D., vol. VIII. 8vo. London. 1802.

Practical

Practical Observations on the Inoculation of Cow-Pox, pointing out a test of a constitutional Affection in those Cases in which the local Inflammation is slight, and in which no Fever is perceptible. By James Bryce, Surgeon. 8vo. Edinburgh. 1802.

A Treatise on the Venereal Rose, commonly called the Virulent Gonorrhœa. By V. Butler, M. D. 8vo.

A Description of the Muscles of the Human Body. By J. C. Carpue. 4to.

A complete Treatise of Electricity, to which is added the Practice of Medical Electricity, with Plates. By T. Cavallo, F.R.S. 3 vols. 8vo. London. 1802.

A Collection of Papers, intended to promote an Institution for the Cure and Prevention of Infectious Fever, in Newcastle, and other populous towns. By J. Clarke. 12mo.

Speculations on the Mode and Appearances of Impregnation in the Human Female. By Robert Cowper, M. D. & F.R.S.

Lectures on Comparative Anatomy, translated from the French of G. Cuvier. By W. Ross, under the inspection of James Macartney, Lecturer on Comparative Anatomy. 2 vols. 8vo. London. 1802.

Annals of Medicine for 1801. By Drs DUNCAN *senior* and *junior*, M. D. 8vo. Edinburgh. 1802.

Elements of Natural History; comprising the Characters of the whole Genera and most remarkable Species, particularly those that are Natives of Britain. With Definitions of Technical Terms. 2 vols, 8vo. Edinburgh. 1802.

Treatise on Bilious Diseases and Indigestion, with the effects of Quassia and Natron in these Disorders. By J. Gibson, M. D.

Medical Transactions. By J. Haygarth, M. D. 4 vols. 8vo.

Dissertation on the White Swelling of the Joints, and the Doctrine of Inflammation. By John Herdman, M. D. 8vo. Edinburgh. 1802.

Practical Observations on Surgery, with Cases. By W. Hey, F. R. S. Leeds. 8vo. 1802.

Observations on the Treatment of Internal and External Diseases, and Management of Children. By Gustavus Hume, Senior State Surgeon of Dublin. 8vo.

Hints to promote Beneficence, Temperance and Medical Science. By John Coakley Lett-
som,

fom, M. & LL. D. 3 vols. 8vo. London, 1802.

A Treatise upon Spinæ Pedum, (Corns). By Herman Lion, Chiropedist. 8vo. Edinburgh, 1802.

A Treatise on the Means of purifying Infected Air, and preventing Contagion. By L. B. G. Morveau. Translated from the French. By R. Hall, M. D. 8vo. London, 1802.

A Treatise on Ophthalmia. By Edward Moore Noble. Part the Second. 8vo. London, 1802.

The Report made to the National Institute of France, respecting the Mineral Waters. Prepared by Nicholas Paul. 8vo. Lond. 1802.

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